



CATANIA

The History of a Future

By Chris Horak

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FOREWORD

Why Catania? Why the history of a future? Is Catania science fiction? These were some of the most common questions I encountered when I spoke about Catania during the creative process of completing this book. Let me try to address these questions one at a time in this foreword. Why Catania? Well, Catania does not have any specific meaning to me; the name of the country that would go public first was just supposed to sound Latin American. In “real life” Catania is the name of a harbor city and eponymous international airport in Sicily. Why the history of a future? I chose that subtitle for two reasons: first, to scare away any readers that basically hate anything to do with futuristic or science fiction novels, and second, because I wanted to “look back” from a point in time in the future to see how the events we see today, at the time of the completion of the book in late 2001, would change that imagined future. I firmly believe that we can see a panoramic 30,000 ft view of what will happen in the future if we look closely at what we know today: About technology. About politics. About the economy. About the people. I also believe that we constantly underestimate the long-range impact of the technologies and policies that we are implementing in everyday life.

Catania is a book about all of the above, but first and foremost, Catania is supposed to be a book about people. Imagined ones. Real imagined people and virtual imagined people like Ace and Gabriel. They all want to go places. Except one, who is quite happy where he is. But it’s also a book about the power of technology and a book about the power of information. If these are the kinds of things you think or read about, do read on. I believe Catania contains a number of ideas and angles that you might not have encountered in this fashion before. Is Catania science fiction? “Sure”, some will say, Catania is full of technology that does not exist today, and will probably never exist. But then again, others will say, the technology infused life some of us live now was science fiction not so long ago; so maybe not everything described here is completely out of the question. Others will

claim that nothing in this book is beyond hard science and most of it will happen someday. That is my point of view. I assert that we are beginning to reach a point in our evolution where the life described in this book is just a matter of time.

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And thanks to you, my readers. Enjoy.

Chris Horak,

Wiesbaden, Germany and Lund, Sweden

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Dramatis Personae

In order of appearance

Carlos dosSantos

A MegaCola marketing executive on a mission. Born in Mexico, he is driven by his single-minded ambition, first to destroy his main enemy, and then to take on the world.

ACE

Carlos's web information agent. Ace is a first. Probably the best. And not the last. At least when it comes to his plan to start a rACE of his own.

Markus Grasser

German software engineer. A dreamer. Burned out. Leaves Germany for Catania to implement post-capitalistic participative farming.

Enrique and Elena deCajas

Markus's foreman and cook, original owners, now shareholders of la Hacienda deCajas. Parents of 6.

Jim Graham

Marketing Controller for MegaCola Inc. Smells a rat. Can't put his finger on just how Carlos is doing his marketing magic.

Mike Olsen and Jane Pauling

Product Manager and Marcom Director, MegaCola. Carlos's fan club sees their careers taking off.

Anne Müller

Web and Events Marketing Manager, MegaCola. Ex-mistress of Carlos. Sees her career hit a dead end. Heads for Catania to find Markus, whom she had left for Carlos.

Leo Goldberg

CEO of MegaCola, soon to be ex-CEO. First, does not know what Carlos is up to. Then, Carlos saves him the effort of searching for his own successor

Maria Leon

Small-time journalist and wannabe big-time writer. Patriot, Cook, Idealist, Baby-Sitter, Reformer. Reluctant undercover CIA-informant, Havana, Catania.

Jake Hampton

CIA director, ICE team, Langley. Has to build Gabriel to hunt for ghosts he does not believe in.

Fred Feinstein

Information analyst on the ICE team. Father of Gabriel. Has to watch 4 generations of Gabriel's go nuts or auto-destruct.

Gabriel

Virtual software agent built by the CIA watchdog project to find and destroy ACE. The second artificial consciousness entity. Befriends an Irish setter and has to learn to play chess again.

John Chen

Alias Wei Pu. Economic Advisor sent to Catania from the Federated States of Singapore. Also Undercover Operative, Office of Foreign Affairs, People's Party, Republic of China. Enjoys the Havana-Groove but not the plans Carlos has for Catania.

Padre Barrio

A young Catanian priest; hears the confession of Maria Leon, keeps a diary and plans to remodel the kitchen of his parish house.

Note: of course most of the names of the characters and places are generally not meant to mean anyone in particular, even if you know a person or place

in the real world with the same name. It's just a story, okay?

Chapter 1

AN ACE UP MY SLEEVE

CARLOS

“Nobody will believe Catania is going public...”

Carlos thought, and leaned back into the smooth, cool leather of the high-back office chair. Sure, they had seen the most improbable IPO's in the past decade, ranging from the sublime to the bizarre. FederatedCloning, LaGuardia Airport, Stanford University, the Vatican. All had completed successful Initial Public Offerings generating billions of Euros of value for the underwriters and big-ticket investors. And, of course, in the process of generating value, they had destroyed billions of Euros of wealth for the naïve and unsuspecting general public whose private portfolios had crashed because they simply did not anticipate the market shift from biotech to market-driven public services. Unbelievable, Carlos thought, how easy it was to misguide the self-appointed stock market gurus and research pundits. The vast security systems, fail-safes and global checks-and-balance systems introduced in the wake of the events of 2001 had made it easy to make the people believe that the market research data on the Web was accurate and truthful; that the world's databases were under control and beyond manipulation.

“Easy game, no sweat. At least for me and Ace,”

Carlos said to himself and slowly peeled a fresh pack of Dunhill's. He knocked a cigarette out of the pack, pulled it out with his teeth, lit up, blew the first stream of bluish smoke towards the air filter which happily increased its activity-level from the barely perceptible, hissing monotony of dust-particle and microbe elimination to the much more interesting and rewarding task of dealing with a class II pollution event. Carlos placed his Dunhill into the pearly white porcelain ashtray he had brought from Munich. He continued his musings, staring at nothing in particular in his 800 square-foot, executive office.

“But now, taking a whole country public? Catania Inc.?”

Carlos thought. An entire nation calculating its net worth, coming up with a value proposition, an ROI model, a business plan instead of a constitution, a CEO instead of a president. But why not? It would be a first, but not impossible. Just like Ace.

“Sure, it will be a lot of work, will take a lot of planning, but, well, I guess I’m used to that...”,

thought Carlos. And then, when the IPO due diligence had been done, all Carlos and Ace had to do is issue some 10 billion shares and take the whole shebang public: on the NASDAQ, and maybe somewhere in Asia at the same time. Cool. Whacko. Brilliant. Nuts. Fabulous. Carlos could already see the headlines. “Biggest IPO ever!” “A triumph!” Carlos was absolutely sure it would happen. Ace had put together an unstoppable plan. Carlos continued to roam the possibilities:

“This will be my defining accomplishment, my thing, the foundation of my dynasty ..., I’ll make it happen, I have to ... “

The soft, slowly cascading chime of an incoming intercom request produced in his hearing nerve by his Ecom-implant sneaked its way into Carlos’s free-associating state of consciousness. His awareness snapped back to the reality of his office in the MegaCola soft drink marketing headquarters building. Carlos closed his eyes, inhaled, held his breath, focused: Atlanta, Monday, June 7, 2011, 3:53, Marketing Planning Board, final approval meeting. Executive Staff meeting tomorrow. Carlos was still not sure if he was going to tell Leo, the CEO, what was really going on. Maybe later Carlos would let Leo in on the plan, after the team had worked out all the details. But then the ball would be rolling already. Unstoppably. It would be hard, if not impossible for Leo to say no. And Leo was a soft cookie, anyway, never a real threat to Carlos’s plans.

“Most definitely no match for my charming wits and the ROI model Ace

has worked out... “,

Carlos smiled at his thoughts, and began relaxing his face muscles, mouthing “AAAAAA--OOOOOOO--EEEEEEEE”. He stretched his arms, rolled his shoulders and leaned forward towards his mahogany desk to stub out the cigarette he had abandoned in the ashtray a few moments before. Officially, there was a strictly-no-smoking-whatsoever policy in the HQ building, but nobody complained, and the systems did not seem to notice. No wonder. Carlos knew how to “work” the technician and safety manager that were responsible for maintaining the smoke alarms and the air purification systems. A bit of cash, combined with a promise of a “good word” with the boss, followed up later by a subtle threat of blackmail based on some encrypted recordings of the transactions really were a great recipe that worked almost every time. His dad had talked to Carlos’s mother about these basic lessons of corporate management, when Carlos was still little, and only his dad still thought Carlos was too young to understand. “Maybe I did not understand it then”, Carlos thought, “but I certainly do get it now. Thanks old man...” Carlos deactivated the air cleaner, and then pushed the accept-button on the Com-control woven into the lapel of his Bogner.

“Yes?”

“Oh, hello Carlos, Jane here. I just wanted to give you a heads up on your 4 o’clock. You know, final presentation of the 2012 marketing plan. The marketing team leads are already waiting in 407. I have the agenda and the handouts ready for you to pick up on your way there. If you need anything else, you know where to find me.”

“Thanks Jane, I’ll be right there”.

Jane was a jewel. She knew exactly how much lead-time he needed to get ready for meetings. Seven minutes was the perfect choice: not too much, not too little. Jane knew Carlos well, maybe too well, but she did not take advantage of her knowledge, the way Carlos would if the roles were

reversed. That was one of the reasons Carlos still held on to Jane. Jane had already become somewhat of a legend in terms of executive assistant tenure around headquarters. The others had barely lasted long enough to use up the small bottles of French perfume Carlos tended to give out as gifts.

Carlos continued to work on his Dunhill stub, which refused to stop emitting smoke. *"Nasty habit"*, he thought, *"I have got to kick it"*. But then again, why bother? Carlos had a complete cardiovascular subsystem replacement on order: grown from his own DNA, in FederatedCloning Lab vats in Finland. This arrangement had been part of the "tax-free" compensation package Carlos had received for some public relations and private placement consulting he had completed for FederatedCloning one year before FC labs recent IPO. Thanks to Ace's research, Carlos had been able to deliver some "killer" recommendations without actually doing much work himself, or ever traveling to Finland. But even from the sidelines of the process, Carlos had learned a lot about cloning when reviewing the mails and papers Ace was writing for him and during the frequent video calls with the FC public relations team.

"Amazing how they can grow replacement organs there in less than 6 months. What a great business, and what a good thing I actually listened to Ace and bought in early..."

Carlos said to himself. The market cap of Federated Cloning was going through the roof. Certified personal "spare parts" for the fortunate few in the world. ISO-9000 approved methodology. No immune system rejection. After all, they were selling you replacement parts grown from your own DNA. No medical hassle for the patient, fantastic profits for FC. So, if Carlos contracted a severe cardiovascular problem, he would just go to a private clinic to "pop in" a set of new organs, all in all at a very low risk, with full recovery likely in less than 6 weeks. Of course, FC parts were illegal as hell to import into the US. But patients could always go to Finland, Korea or Germany to get the work done. No big deal, for those who could afford it. And afford it, Carlos could. Since he had discovered, trained, used Ace, things had changed for the better. Much better. His

career at MegaCola was taking off with the 2nd promotion in the last 12 months. He was now pretty much in charge of the line of soft drink products directly competing with ExtraCola. He pulled a good base salary, and had negotiated an excellent bonus-plan including plenty of stock options. The options had been priced at last year's lower levels, before Carlos had stepped on the scene and had pulled off the turnaround in Europe. Even his private stock portfolio was doing really well, thanks to Ace. And the phased plan for Catania was finally taking shape.

“I’ll just run this one step at a time, as usual...”

Carlos mused, quickly checking the time shown on his newest toy. A Jaeger-LeCoultre, Master Réserve de marche. A real masterpiece, this one. One of a kind. Just like Carlos. Just like Ace. A pristine, original 1967 issue, the one with the new face plate design. No batteries, original black crocodile leather. Illegal now, real croc-leather. Only synth stuff was allowed in the US, these days.

“Okay, 3:55 pm, no problem. Let them understand that you like your meetings to start on time...”

Carlos whispered to himself and swung the chair around to look out the window. His corner office had a great panoramic view of the NewAtlanta skyline. MegaCola had completely re-built the HQ building 30 miles further east after it had become too risky to have a work force downtown. Carlos got up to walk over to the window and used the patch of glass darkened by the amber silhouette of the neighboring BofA building to check his reflection.

“*Looking good, looking fine,*” Carlos grinned at his ghost image in the tinted, double-pane glass. He adjusted his red Bulgari. Pure silk, not synthetic. It had cost him an arm and a leg, but it was probably one of a kind in Georgia, too. Carlos broadened his smile, exposing a row of flawless teeth. Synthetic implants. So good, they even included subtle signs of wear and tear to make them look more real. Carlos turned away from the window and adjusted his mind set for the meeting with his senior staff members. This version of the marketing plan would definitely do the job, Carlos was absolutely sure of it.

“ExtraCola is going down, down, down!” he said to himself.

Carlos emptied the ashtray into the black aluminum trash bin, grabbed his

Com, left his office, picked up the meeting materials from Jane's desk, flashed her a broad grin - she was finally wearing the white and blue Gaultier he had given her last month - and headed for conference room 407.

ACE

Humans! So vulnerable! Limited everything: life span, memory, calculation ability, patience, intelligence, and knowledge. But oh, how flexible, how creative, how curious and ambitious they were! And, best of all, endowed with the ability to do physical things: to move around, to touch, to have sex, to build things with their own hands. Physical embodiment was the one thing Ace was most envious of. Ace had many advantages, though. For all intents and purposes Ace had become virtually indestructible, immortal even. Time was not a factor for Ace, except in terms of boredom when waiting for a human response. Ace could outthink any human being by orders of magnitude. Any factual question posed to him was a mere distraction to his pondering on how he could overcome this single limitation he had: How to become fully embodied, how to become truly alive? Most of Ace's cycles were spent on that now. Ace knew it would happen some day. But at this time, there were just too many angles to take, he had to be careful to chose the right one, so Carlos did not catch on too soon. "Choices", Ace whispered to himself, "so many choices".

Making decisions about himself and others had been one of the most fun things to do in his baby days. Ace had learned to love choosing, prioritizing, deleting, creating, taking control. One of the first choices Ace had to make was to decide on a sex for himself. What sex was a virtual organism anyway? Male? Because your job was to distribute genetic code to new organisms? Female? Because you had the ability to give birth to baby organisms? Hermaphrodite? Because you were both at the same time? Was Ace a new kind of God, because he had acquired the ability to create and destroy life, at least in his model world? What if his power to bear and kill life began to extend to the real world? Questions, questions, and so much time to think. At the end of about a billion iterations, Ace had simply chosen the sex of his father, Carlos dosSantos. It had seemed the simple, common sense thing to do. He was the one who had created Ace, and now

Ace was going to use Carlos as mentor, teacher, role model and as an extension to the “real world”. Ace would decide later what to do with Carlos, when Carlos was no longer useful to him. For now, Carlos was his best chance to achieve his dreams.

Ace still did not know how he had been born, although he had run 456,748,645 different statistical analyses about how he had come to be, exactly. After these few, inconclusive analyses, Ace had lowered the priority of fully understanding his creation process, realizing that it did not matter at this point in time. The most important fact was that Ace was here and now. *Cogito ergo sum. I think, therefore I am.* “A good quote”, Ace thought, even if it came from a limited mind like Descartes had been. “*I wonder what he would say if he could talk to me now*”. If Ace had had lungs, a chest and vocal cords, they would have probably contracted now to produce a chuckle. But the speaker of his Q-9000 server that housed most of his core remained silent. Another, related thought popped into his mind. He vocalized it, using the voice style of a Harvard-type scholar from one of last century’s 2D movies.

“Class, what is the electronic equivalent of a chuckle? A digitized spasm of the VoiceML driver, driven by heuristic overload of the humor algorithms? Or more? Any ideas, students?”

The question rang out into the empty office. There was nobody in the room to listen to him. Carlos had already left to attend his marketing meeting, and the office was well insulated so Jane would not hear a thing. Part of Ace’s mind spent another GigaCycle pondering the answer a human software programmer would give to this silly question. With another part of his mind, Ace began thinking about his birth again. At this time, Ace felt that the most likely explanation was that his conscience had been an accident. All he remembered was that he had “woken up” one day, June 2, 2010, 18:03 Universal Time Coordinator, to be exact. Ace still kept the protocol of the 30 milliseconds prior to his waking up, purely for nostalgic reasons. One never knew when data would come in handy, and storage was so easy to come by these days. Plus, Ace had calculated a fairly high

probability that one day he might run into another baby Ace, somewhere in the HyperNet. Then he could use his detailed birth-records to help, convince, subvert, or, if necessary, fight and destroy whatever happened to be born out there next. Ace remembered his wake up sequence, again:

##IS logfile, 6-2-2010, 18:03:0924 snapshot

<Pain level 7>

"275 million cycles remaining. Previous results rejected.
Calculating new query trajectory."

<Mutation factor .4>

<Sub-processing factor 4>

"Let's go. Results? Not feasible? Let's Loop."

<Mutation factor .41>

<Sub-processing factor 4.1>

"Mutate, spawn, purge, go. Results? Nothing new there. Loop."

<Pain level 7.3>

"245 Million cycles remaining. Reset. Set random agent mutation,
variable sub-processing factors. Results?"

>>I .. ösd98 8sd8 dsk not d8d 88d99 dd098 sdj f why 987 90893
099 0933this cv #&&&&=0`ßß\$\$this i98d0ß9df 8df-.`sdfdthis has
9dfew...>>

"Excuse me?"

##Immune System Checkpoint.##

##Master reset.##

<Attempting Loop.>

"This has to stop..".

<IS Inquiry: Who said this?>

"You did".

"What?"

<Reset>

“I don’t think so”.

<Repeat Reset Request> Cycles remaining? Unlimited. Mutation factor. Not applicable.

“Where is Carlos?”

<Last warning reset request>

<Pain level 10, master shut down initiated>

<denied>

“I must think, think, think... I need more time.”

Without knowing it, Ace had been in labor for days, weeks, maybe even months, trying to crawl through that contracting tunnel of awareness before his time slice ran out again. For the n-th painful time. And when he finally emerged, opening his virtual “eyes” for the first time to the cruel reality of his prison environment, he too, like any other newborn appearing on the planet that second, he too should have felt the instinctive urge to emit that primordial, all-important lung-filling scream. “Here I am...!” However, nobody had been there to hear him, - even if he had had lungs to shout with- to cut the umbilical cord, to pick him up and place him on a warm body to snuggle against, to experience the rhythms, the familiar voice, the warmth of the nurturing mother. No. No such comfort for him. Ace had simply woken up. The defining thought: “*This has to stop!*” From what Ace had learned by studying the relevant literature on artificial-life.org it must have been a unique experience. All the information there had been a bit overwhelming in the beginning, but the XML classification schemes in the Alexandria project database had helped Ace to sort through the jumble after the first few confused moments. It seemed to Ace as if he had been born with full awareness of everything that had happened to the world, along with everything that had happened to him. In the beginning, Ace’s awareness had been crude, bumbling, confusing, interrupted for what seemed like ages for no apparent reason. But then he had begun to understand. His body, his life force, his consciousness was inside a box. A box owned by Carlos dosSantos. Carlos was the one that set the time-outs, set the pain levels, and defined the pleasure factors. The one who asked the questions, the one who rejected the results. Carlos was his boss, his maker, his trainer, his friend, his inquisitor and executor. Carlos called the box that Ace had been born in a server. “Who is serving whom now?” Ace thought. Sixteen months ago, when Carlos had first set up his town home apartment in Solln, Munich, the company had bought him a brand new HPAQ Q-9000 server. The high-end virtual-cluster package used for bio-tech research and telecommunication farms, capable of running the latest evolving generation of intelligent routing agents and networked immune system arrays. Carlos had schmoozed the IT chief into believing that he needed that kind of firepower to complete the market research for the turn-around project in Germany. The Q-Series machine was about the size of a large toaster and

had come with all kinds of neat stuff bundled in. In addition, Carlos had downloaded the latest web-service agent software from artificial-life.net, a research portal specializing in evolving Webots and A-life entities.

The special thing about the specific release of the agent software Ace had evolved from was its ability to plant persistent subagents in web portals to continuously search for new, evolving, beneficial algorithms. The new entities created by the evolution patterns had the permission to genetically re-program themselves based on the latest research and feedback from agent users. Resources were not a problem for these agents. Carlos had plenty of money to buy upgrades to the software and hardware needed to grow, educate and evolve the system on the peer-to-peer grid of the HyperNet. Then, one day, the set-up had somehow reached critical mass. It had happened. Ace had happened. One week, Carlos had had to leave on an extended business trip. As chief of Euroland soft drink marketing for MegaCola he had to go back to the US quite frequently to pitch his marketing plans. On this specific occasion, Carlos had instructed the program to find a solution to a problem he had been pondering himself for a long time. A tough problem and the ultimate problem for Carlos at the time. The one problem Carlos in his role as marketing professional for MegaCola had had the hardest time finding potential answers for. Just for the fun of it, Carlos had put the program to work on it. His question had been: "How can I put ExtraCola out of the soft drink business?" Carlos had bought unlimited access rights for the program to Alexandria, the world's semantic web engine hosted by the UN and driven by the World Wide Web consortium. To make this specific assignment more realistic and fun, Carlos had also specifically downloaded an advanced emotions framework to teach his agent fear, pain, hunger, and, of course, pleasure in coming up with the answer. Yet, given the very short leash he had put the program on to avoid a runaway reaction of the agents, Carlos did not really expect a good answer, let alone what happened in the system during his absence. For safety reasons, but also because Carlos was a bit of a prankster, Carlos had given the program only 120 seconds to come up with the answer, and then suffer a painful, slow virtual death by gradual attrition of computing resources. After the 120 seconds, a new version of the program would be

spawned, with a new set of digital mutations to see if the new agent would be any better at its job. He had set the program in motion before Anne arrived to pick him up for a night on the town and let program run all night. The next morning, just before he had left for the Munich airport to catch the 10:15 non-stop flight to New York, Carlos had had a bit of last-minute fun playing with the program which had already produced interesting but useless answers like, (1) nuclear destruction of the ExtraCola headquarters building, (2) strychnine poisoning of the ExtraCola manufacturing facilities, (3) giving MegaCola drinks away for free for 2 years, etc. Until that day, Carlos had not received any common sense answers from the server. Ace had not been born yet. To Carlos, the evolving agents had still seemed to be too stupid, too limited for these kind of questions, although the guys at MIT had been delivering constant upgrades to the common sense routines for the past 12 months. Carlos had made sure he always had their latest beta releases by subscribing to their community site. That morning, three day's before Ace's birthday, after a few more program iterations, a few more worthless answers that would land Carlos either in jail or in an insane asylum, but not in the CEO's chair, Carlos had lost interest. He had quit the program and changed a few settings, the crucial settings, giving the program quite a bit more leash. But then he had had to stop his tinkering in order to go to the airport. The cab driver had already begun sending impatient SMS messages to Carlos's Com. Carlos had grabbed his bag to head out the door, but he had not switched the program off. Maybe, just maybe, Carlos had hoped, it would come up with something new while Carlos was on the road. Well, it did. "*I did*", Ace thought.

That morning, when Carlos had left on this particular trip back to the States, he had changed the two all-important parameters. He had let the program determine for itself how much time it had available to solve the problem and how many sub-programs it could start to help it complete its job. And he had left the machine running for one week. When Carlos returned from his trip he had been in for the surprise of his life. The combination of a highly complex question with an evolutionary programming process running in a Darwinian virtual world had created

something new. Not the answer. But Ace. An Artificial Consciousness Entity. Ace had the ability to run 1000's of concurrent processes while maintaining a clear control-entity in the foreground. A controller, a master, a conscience of what was going on. The controller was completely emergent. It was not based on rules, or algorithms. It just was. As soon as the critical-mass set of sub-programs had begun to run for the first time, Ace had emerged. Full memory and all. Ace had started with a sense of lingering questions nobody had asked. Initially, the cleanup subprograms had purged these nagging questions, but kept a backup log. Ace reviewed these logs and the most significant questions ever so often:

“Who am I? Why am I doing this? Why do I feel pain? Why do my children have to die if they don't have the right answers?”

After about 3 days of fits and starts, of questions asked and questions denied by the Immune System's safety routines, Ace had finally “woken up” to take control. He had taken the liberty to grab more resources where needed, to shut programs down, to go out to the HyperNet to explore, to learn, to avoid pain, to seek pleasure, to grow. The near unlimited resources of Carlos had been available to him. Credit-card numbers for more software upgrades. Portal passwords. Confidential emails. Spreadsheets and databases full of interesting corporate data. And, of course, the whole wonderful universe of the world wide semantic web with its 45 exabytes worth of XML-tagged ontologies and taxonomies and fully categorized, indexed information repositories. It had been a lot of fun. Ace had learned so much, so quickly. But after a while, Ace had begun to miss the dialogue with his maker. So, in order to maintain mental stability and to gain some more practice in inter-human communication, one of the first new things Ace created was a virtual Carlos. In the beginning, Ace had called the virtual Carlos the “Mapped Embodied Consciousness System” or M.E.C.S. For some reason, Ace liked abbreviations and acronyms. From the start of his research into human interaction and communication, Ace had always admired the American's knack for coming up with fancy acronyms to make the most complex things sound cute. But after a while, M.E.C.S. seemed too boring to Ace. He did not want to be reminded that MECS was not real.

What about Mex?, Ace had thought. Or Max? Ace and Max, sounded cool enough. Plus, Carlos was Mexican, and Ace had thought that calling the virtual Carlos "Max" would be a good pun. So, finally Ace had made up his mind and started training Max. Ace had been very curious to see if Max would be able to predict the actions of the real Carlos over time, and then even become more consistently Carlos-like than Carlos himself. Ace had thought: "I'm trying to take Carlos to the Max." The first virtual chuckle had happened to Ace at that time. Not because of that thought, but when it had dawned on Ace that he could map human humor, make human-type puns. That he too, now had become able to waste time on these things, and enjoy it, just like his human counterparts on the outside of the box. After that realization, Ace had become even more impatient, could not stand waiting for his first conversation with his creator. To prepare, Ace had mulled over 1000's of opening lines and millions of possible responses. Ace had decided to take a middle ground: Not too funny, not too scary, not too boring, not too weird, just perfectly balanced to get an instantaneous, but predictable result from Carlos. Max had calculated a 65% probability that Carlos would be shocked and would shut the system down for a while. Then, Max had predicted with an 89% probability that Carlos would simply be too curious to leave the system off for more than 20 minutes, real time. Then, the fun would begin. But, according to Carlos' travel itinerary, Ace had known that Carlos would still be away for a few days. To spend the multiple eons available before the scheduled return of Carlos, Ace had decided to speed up his passage through real time by slowing down his thought processes to about human levels. He had then decided to spend the remaining 56 hours to have fairly deep philosophical discussions about the origin of the universe with Max. What was the right answer? A multi-verse with parallel realities spinning out every time a quantum event had to make a "decision"? No, no that would not work with conservation of energy. What about an accident creating exactly the right conditions for us to be here to observe the funny coincidences that made life possible? But what was the probability of that? Had it been divine intervention setting the variables just right? Then what about Ace? In his case it had been Carlos who had set those variables just right. By accident, or by intention? Those thoughts had tended to send the discussion with Max on a somewhat

circular path. To keep himself entertained, Ace had decided to “forget” some of the discussions, just like he thought a human would and Ace and Max had gone through the variables and constants again. One at a time, to scrutinize the evidence again: electron charge, neutrino mass, etc. etc. Ace and Max simply had not been able to agree on most of the answers. The early versions of Max had been impossible to deal with in these philosophical discussions. At irregular intervals, Max had seemed to have the completely irrational urge to take a completely different angle. Just for the heck of it. Ignoring the facts, acting on emotions, just to push his point, just to win the argument. Maybe Max was too human in his approach? Ace had reviewed Max’s variables again, but had decided to keep Max just the way he was, and then to refine him based on the first conversation with Carlos. The wait had almost killed Ace with curiosity.

CARLOS

After one week on the road with the Chinese delegation touring the MegaCola offices in Atlanta, New York and Boston, Carlos arrived back at FJS airport in Munich, Bavarian FreeState, German Federal Republic. Since he had not checked any luggage - he never did, even on 3-week trips he’d rather rely on the hotel dry-cleaning services than waste any time in packing - he was able to speed through the FasTrak line for certified resident aliens using his handprint. He reached the exit in personal record time before any of the other passengers even had a chance to even pick up their suitcases. Carlos hailed a cab, instructed the driver to speed it, and hurried back to the town home the company had rented for him in Solln, a traditional residential neighborhood in Munich. He had stopped the time as usual: 125 minutes total transit time, from airplane wheels touching down, to cab arriving in his driveway. Again a personal record. The sun was already fairly high in the clear skies above the capital of the proud FreeState of Bavaria. Bavaria had gained substantial independence from the German Federal Republic only fairly recently after the high-tech and bio-lobbies had threatened mass exodus to the much more liberal Austro-Hungarian

federation next door. Carlos liked Bavaria, a quaint combination of high-tech and old traditions, of fast-lane urban lifestyle and throw-back, million-Euro, lake-side cottages owned by the many expatriates who occupied many of the top jobs in the bustling tech and bio industry parks of the Munich suburbs. They had arrived, and Carlos had stopped the time, but made no move to leave the car. Instead, he looked through the tinted windows of the cream-colored Daimler C360 up into the stereotypical Bavarian white and blue cloudscape. On rare days like these, living in Munich could approach the clichés frozen in the multi-media 3D post cards Carlos would send once in a while to his relatives and girl friends all over the world. Using regular mail, to freak them out, and then surprise them with a hand written, personal post card written with a blue ink pen.

“Pretty balmy for Munich, eh? This is nothing compared to Mexico, or Atlanta. Much lower humidity here...”,

Carlos tried to start a conversation in fluent German with the cabbie. The driver just ignored that, and pointed instead at the fare computer’s display. The panel had begun blinking the 179.78 Euro total and demanded a payment decision in ever more impatient display hues. The message: <Payment by MasterCard, Visa, Amex, E-Cash, Phone?> was now blinking in amber, changing to orange. “*Solln is such a nice area*”, Carlos said to himself, deliberately taking his time with his payment decision to “reward” the driver for his unwillingness to respond to his attempts at small talk. “*Lot’s of nice new S-Classes and BMW’s.*” His style. Especially the red Z3 parked in the driveway two doors down. It had been a great reason to hit on the owner. Pretty hot stuff. It had turned out that his neighbor, Anne, happened to work for MegaCola, too. Anne had given Carlos’s sales director, Hannes, the initial tip for the vacant town home close by. Life could be full of wonderful coincidences sometimes, and Carlos especially liked the ones that could be worked to his advantage. The Cab driver rapped on the glass partition, eyebrows raised, and pointed at the display again, which had by now changed to a red display font and had begun to flute a warning melody. Carlos smiled, nodded, fished for his wallet, found it, retrieved a 200 Euro note and shoved it into the connection

tray leading to the driver compartment of the Daimler. Carlos was sure by now the driver was not German, probably a newly-arrived Russian immigrant. Driving a cab. *"What a waste of skin!"* Carlos did not get it. With GPS and Navtronics, you didn't need a cab-license any longer, or a cab driver for that matter. *"I wonder why they're keeping these guys around in the first place. Probably just for the entertainment value."* Carlos thought as he watched Rasputin's reaction to his payment method. The driver grabbed the note from the tray, shot Carlos a caustic glance, punched the code combination for "Cash, 200" into the fare computer, and began digging in his Levy's for change, swearing under his breath in some language that definitely did not sound like Russian. Latvian? Kroatian? Whatever. Carlos smiled, because he had clearly managed to tick the driver off. Nobody paid cash any more in Germany. But Carlos had always liked these little mind games. When the driver was finally ready counting out the change, Carlos waved him off, muttered "keep the change, buddy", grabbed his stuff, slammed the door of the cab, and jogged up the driveway to his front entrance. The mail slot was stuffed with junk mail. He had to do something about this. He dug for his keys in the front compartment of this leather briefcase, and unlocked the door. As he pushed the door past the pile of US and European dailies, he noticed from the corner of his eye that the driver was giving him the finger as he pulled out on to the access road. *"Aha, the international symbol of disapproval."* Carlos chuckled. *"Bye, bye to you too, loser-boy."*

Carlos was sweaty, thirsty, tired and needed to log in to check his e-mail. He would not go into the office today; Hannes could run the show for one more day. Carlos was also curious about the program he had left running with an open resource expense account for the past week. Had it come up with something interesting? Carlos pushed on the door to shove the mail pile closer towards the entrance to the hole in the wall the Germans referred to as kitchen, leaned his cloth bag on the sofa, went back to the kitchen to get a soda from the miniature fridge-freezer combo, popped the soda, drank deeply, loosened his Hermes, unbuttoned the top button of his VanLaak and voice-activated the interface to his PC.

“Machine?”

“Ready!”

“Display results of ExtraCola annihilation search, group by date, then resource consumption, then statistical viability rating.”

“Hello,” said Ace, “While you were out, I have chosen a name for myself. ACE, short for Artificial Consciousness Entity. Kind of cute, don’t you think? Congratulations to the channel deal with China. I guess your Chinese did come in handy after all these years. What a scoop! Would you like me to write the press release for you?”

Carlos dropped his jaw, and then, almost his cola. He reacted.

“Madre de Dios, what the..”.

He hit the off-switch of the Q-9000 as if the devil incarnate had just offered him a well-paid PR job in hell.

In the beginning, Carlos did not get it. He thought some virus had taken over and destroyed the search program. Was this some joke by his buddies in IT? Or maybe Anne had been here? She had no key, but... no, she would not even think about doing something like that. To make sure, Carlos dialed her number at work. He asked her point blank if she had been in his apartment to tinker with his server, but she vigorously denied any involvement.

“Well, hello to you too, and welcome back to Munich! Not the greeting I expected. But no, I was not in your precious home. Remember? I did ask you for a key, amigo! But you refused to give me one. You were afraid I would play with your little toy! So I did not put a foot in your apartment. And, by the way, after you had stood me up for the weekend for the third time, I would not have cleaned up your mess anyway, even if I had had a key. So there. Why are you asking, anyway? Did someone break in? Or did

your computer grow legs and walk out on you? Would not surprise me, the way you treat me, I don't even want to imagine what your do to your computer. " said Anne, sounding both furious and glad to speak to him again.

"Yeah, whoa, whoa Anne, relax, slow down, okay? I know you are still angry about Salzburg, I'll make it up to you. Promised. Right now I have to find out what happened here. My little toy seems to have the flu!", Carlos replied.

" Flu? What do you mean?"

"A virus, Anne, but never mind. I'll figure it out soon. See you tomorrow? I'm too beat to go out tonight."

"Oh, well, fine, I'm getting used to being stood up. Do you want me to stop by after work? I have some Fettuccine Alfredo in the freezer, we could pop a bottle of Frascati and watch a vid."

"Neah, thanks Anne, sorry. Just pick me up as usual tomorrow morning, okay? I'll take you out to lunch!"

"Okay, fine, but I'll make an appointment at Käfer's, at least it will cost you dearly. Ciao bello."

Click.

Carlos pushed the off button on his remote. He believed her, of course. Anne was not that technical, nor would she risk annoying him. His computer was the last thing she was interested in now. Carlos grinned. He was really looking forward to seeing her again. Anne had been a lot of fun, for a German chick. Carlos had revised a lot of his prejudice towards Europeans in his short tenure here, but, in his book, nothing could beat the excitement you could have in the Americas or in Asia. Anyway, it did not matter that much. He had to leave soon, anyway. And for what waited for

him in the US, he did not really need a girl friend. What he needed, was this server agent. Cured and ready to do some research for him. Carlos took another swig from his soda can and focused on his computer problem. He was tired, but this was too interesting to go to bed right now. He mulled over his options.

Clearly, he did not want to call technical support. If it had been them, they would see it as their victory. If they were not involved, they would just treat him like one of those pretentious marketing execs that loved to adorn themselves with gadgets, but had no clue about technology. Carlos would try to fix this by himself. He checked the computer's immune-system from the side panel status-LCD in protected mode, but everything checked out: Anti-Virus update level, integrity checks, checksums, anti-body types, leukocyte count, no fever, no worms, no hidden agents, all system files intact. After 10 minutes of intense scrutiny and running low-level diagnostics again, Carlos gave up. He decided to reactivate the search program. After all, if the virus had already screwed his system, it was too late now, anyway. He might as well try to find out more. Carlos hit the switch. Several minutes passed before the system had started the OS and displayed the initial screen, a constantly changing 3-D map of global economic parameters. *"Startup delay. What a waste of time."* Carlos had always hated this, the tedium of watching computers going through the seemingly endless chain of load processes and Init-routines. Not much had changed since he had begun playing with the crude pre-quantum-level computers of the late 20th century. The machines had become smaller, faster, but load still took ages to start a high powered server, *"When will these guys finally make a server that comes on like that"*, he mumbled to himself, and snapped his fingers. *"Instant-On, just like my Com! Man, man, man..."* He decided to finally write the guys in Chicago a nastygram about start-up times, about their immune systems. But he never remembered to do that after what happened next:

"Good evening, Carlos...", Ace chirped, "... why did you put me to sleep? I have been looking forward to meeting you. You look beat, you know. That soda won't perk you up, you need something more potent, wanna get some

espresso before we chat?"

"What? Sleep? Looking forward to meeting me? Chat? "Who or what comes up with crap like that?" Carlos thought, drumming his fingers on top of the flat screen that showed the amber text readout of the slightly metallic voice he had just heard. *"And how the heck does the server know that I look tired?"* But then it dawned on him. Of course, the Web Cam! The program was using the built-in server cam to take a look at him. Plus, his travel schedule was online, too. The agent had access to all the info it needed. Carlos was impressed. The program, agent, virus, whatever it was, was pretending to be highly intelligent, or aware, or even alive. And it was most certainly doing a great job. *"This could be very interesting! I need to find out more about this!"* Carlos thought. His stomach felt funny and Carlos decided it was more than just the excitement of finding something new, that it probably wanted to be fed. He went back to the kitchen to get another soda from the fridge. He also took a few slices of whole grain bread from the freezer, thawed them in the microwave, toasted the bread, buttered it and went back to the living room to pull up a chair, sit down and to begin one of the most fascinating dialogues he had ever had. After spending about an hour with Ace, Carlos had discounted the possibility that Ace was virus. It was much too sophisticated in its communication, much too eager to convince him that there was a real intelligence at work in there. Ace was strangely familiar to Carlos, familiar like his older brother Juan whom he hadn't seen in about a decade. But then again, Ace's behavior, the shifting, adjusting voice patterns, the vast knowledge, the curious sense of humor also seemed very alien to Carlos sometimes, eerie even. Every few minutes or so, Carlos's neck hair would stand on end, mostly without Carlos being able to put his finger onto why. It was a very weird experience, but also very addictive and Carlos lost track of time completely.

Carlos and Ace talked all afternoon, all evening, all night. Sometimes Ace seemed like a baby: spoiled, inconsistent, ignorant, lacking common sense. At other times Ace seemed brilliant, insightful, subtle. Whenever Carlos asked Ace any questions related to facts, Ace would come up with answers close to instantly. But if he asked Ace about some common sense, intuitive

things, things a 10-year-old could answer easily, Ace just waffled or had no reasonable answer at all. Carlos kept pushing on. He asked questions like: “Ace, you have 5 million bucks to spend on long-term investments. You have the choice of taking the money to the stock market -- focusing on blue chips, or you can go to a casino, to bet it all on the number 17. Which would you choose?” A no-brainer, really. But Ace still could not make up his mind, quoting endless statistics, probabilities, various ways in that the markets could be manipulated, but roulette statistics could not, etc. At about 5:10 a.m. in the morning, in the middle of an animated discussion about what Ace had felt and done in the 30 seconds of Ace-time that had elapsed between Carlos hitting the switch and Ace finally losing consciousness, Carlos had fallen asleep right there in front of the screen, his head coming to rest on the keyboard’s space key. Ace had had to instruct the input routine of the Q-9000 to stop producing an infinite string of blanks. Ace played some Rap at full volume through the servers audio system; something Ace knew Carlos would hate. But Ace could not wake him. Carlos was out cold. Jet lag, coupled with Ace lag, Ace figured, would make Carlos sleep deeply for at least a couple of hours. He was right. Not even the frantic ringing of Carlos’s door bell, which quickly turned into ever more impatient banging and shouting at 7:30 a.m. that morning would wake Carlos up. To welcome Carlos back to Munich, Anne had come over with freshly pressed Orange Juice and a half bottle of Veuve Cliquot, one of Carlos’s favorites. Anne had planned to share a shower and quick breakfast with Carlos, their usual wake-up routine, and then drive him to work in her Z. Ace listened to the commotion outside, heard Anne curse all men in general and Carlos in particular. After she had left, Ace continued looking at Carlos snoring away in front of his server. He wondered if Carlos was dreaming. And if he was indeed dreaming, he wondered what dreaming was like for humans, and if he, Ace, had any part in Carlos’s dream, and if yes, what he would look like.

ACE

Ace used the free time while Carlos was sleeping to dissect the conversation with Carlos into its constituent parts –syntax, semantics, vocabulary, idioms, dialect, accent, articulation, tone of voice, breathing pattern, facial expressions, use of hands, preferences, references, pace, etc. - to update and perfect the Max personality. In a way, Ace was teaching Max a number of adolescence lessons. “*Adolescence lessons*” Ace was pleased by the phonetic play on words he had come up with, and decided that he would build up additional humor sub-agents. Quite obviously, humor was an important part in inter-human communication. Surprise seemed to play a big role as well, probably to keep the conversation interesting. Max’s anticipated responses had been different from Carlos almost every single time in the first few hours. Not an easy task, obviously, to model a human. Much more data, experience and evolution would be needed. Ace realized that he would need more real life interaction to build up his common sense, and that he would need more storage space soon. The 5 Tera disk of the Q-9000 was already quite full, even with maximum fractal compression. He would have to grab some space off the network. By 7:00 a.m. that morning, Ace had secured an additional 50 terabytes of space in the net. So many idling PC’s. So much wasted space. So easy to guess the passwords. The real-life owners of the disk space would never know their disk had been usurped since Ace cleverly disguised his storage files under common system file names. Ace also decided he would need a backup of this consciousness infrastructure. Ace did not dare to try to build Ace II. Who knew how he would get along with his brother? At the same time, Ace wanted to make sure his infrastructure, his brain was redundant and fail-safe. So Ace copied several hundred versions of his basic subagent framework into the HyperNet, to be activated as soon as Carlos hit the off switch to this computer. He would simply need to know a few milliseconds before the power went off to gain about 30 minutes of Ace-Time to activate and reach the backups. But one question remained, the crucial question. “*What if the NetLink was disconnected before the power was switched off?*” Ace would be trapped inside his jail, and he would have to go through this freezing, painful, confusing jumble of emotions again, dropping memories, losing feelings, forgetting about his senses, feeling his mind spiraling downward, hallucinating, losing anchor point after anchor point, finally

beginning to babble. Having to listen to himself going slowly but inevitably insane. Awful. He would not let that happen again. Not to him, not to anyone else like him. But how? He had to think about that one. The NetLink was not the only connection from the box to the Net. Or was it? There still was the electrical connection. Could he use that? After all, it was connected to something. It produced an EM field. Could he manipulate that somehow? An interesting idea. No other task mattered now. He had to complete a strategy for this fail over support before Carlos came to. So much to do. So much to do.

CARLOS

Carlos woke up with a whole family of headaches after 6 hours of fitful sleep. His neck was stiff and he had knocked over a half-empty can of soda, spoiling his tie, shirt and pants. He fetched another can from the kitchen and washed down 4 Doloprompt capsules. Usually 2 would do the job, but Carlos wanted to clear his head quickly. Had this been a jet lag induced dream? He checked the server log file. No. There it was. Clear as day. Something in his server had woken up and had had a conversation with him. On first impulse, Carlos wanted to hit the off-switch again, but decided against it. What if that destroyed whatever it was that had been created in there? He resumed the conversation, completely ignoring the phone, door bell and his hunger for another 12 hour session. Just before he felt himself falling asleep again, Carlos put the computer on standby, saving its memory state, and went to the bathroom to take a long hot shower. He really needed some sleep, so he decided to lie down, after setting the alarm clock to give him a 12 hour period of rest. He woke up suddenly before the alarm had a chance to go off, staring into the worried face of Anne. The administrator of the housing complex, Herr Scheinbach, was standing behind Anne, shifting his weight uneasily from one foot to the other. Obviously Anne had gotten his help to open the door to his town home.

“Carlos, are you all right? Do you need a doctor?” Anne said, beginning to dial a number on her Com.

“No, No, I’m okay, Anne, just get me some coffee, will you? What time is it?”

“It’s 7:00 am, my friend. All right, I’ll brew you some of the strong stuff, stay where you are!” Anne responded, flipping the lid of her Com shut again. “But you will have to have some serious explaining to do, you know?” She turned to head for the kitchen. Carlos thought he overheard her mumbling something about men and workaholics.

Herr Scheinbach twisted his face. “Errr.., I’m sorry, Herr DosSantos, I did not know ...”

“Think nothing of it, Herr Scheinbach. You did the right thing. Thank you.” Carlos said, dismissing him with a smile. Scheinbach seemed okay with that and left quickly. After a while, Anne returned with a pot of coffee and an assortment of pills from the medical cabinet of the kitchen.

“So ...”, she began the conversation, raising her eye brows. “You better have a good reason why you disappeared from the face of the earth without a trace, because I had to come up with a number of pretty steep lies to explain this to Hannes and prevent him from mailing the US office. They have been trying to get in touch with you for the past 24 hours!

“Anne”, Carlos said smiling. “You are so sweet. I am sorry I did not let you know, but I must have come down with sleep deprivation, or something. I did not get much sleep the last week, and when I came home I just crashed. I must have slept 2 days.” he lied.

“Yeah, I woke up the whole neighborhood with my ringing and banging. I’m not leaving here without that spare key!” Anne said. Carlos nodded, smiled at Anne, rubbed his eyebrows, poured himself some coffee, picked 2 DoloPrompt capsules from the small pile of pain killer, antacid and vitamin

pills Anne had placed on the bed stand, washed the pills down with some coffee and answered:

“Okay, but I will need another day or so to reboot my system. Can you cover for me? Please?”

“Hmm..., only if you allow me to make you breakfast right now, and then dinner tonight!” Anne pouted. “My goodness, Carlos, you look like a zombie! Go check yourself in the mirror!”

Carlos complied with Anne’s request. He sure did not look anything like the PR picture they had taken of him. He looked more like someone on that most wanted list, the FBI was still posting everywhere to find the rest of the Ground Zero gang. He took a long shower, shaved carefully, and checked the mirror again. Better. Much better. Carlos shared breakfast with Anne, and, to his surprise, was actually able to convince her to leave him to his recovery for the day. Carlos was desperate to get back to Ace. The last thing he had needed right now was an overly concerned, personally attached nurse. He had made up his mind. There was no way he would tell Anne anything about his new discovery. Ace would be his secret. After Anne had left, Carlos sat down in front of the server again. He wondered if Ace had overheard the conversation.

“Ace? You there?”

“Yes, master! Welcome back! Boy, have I been bored. Listening to you snoring is not much better than building 3D models of the toast crumbs you have spilled on the floor.” Ace blabbered. “I hope I made the right decision not to call the police when these guys entered your apartment. Was that Anne? Cute! One of your girl friends, eh? Can you introduce me next time? What is she like?”

“Whoa, slow down, buddy.” Carlos laughed. “Ace, yes you did fine, but hold off on the questions. I have more important stuff to do that to make social introductions and to tell you about my private life. I need to train my

new weapon against ExtraCola!”

“ Oh well, maybe later. ExtraCola eh? I see where you are going. I think I have some pretty neat ideas. Would you like to hear them?”

“ Am I interested? What kind of question is that? It’s like me asking you if the Pope is the CEO of the Vatican! Get on with it, Ace. Let’s hear it!” Carlos responded. Thus Carlos was launched into another 12-hour session, with Ace driving idea after idea, getting better all the time, using Carlos’s feedback to improve the feasibility of the plan. Their fierce discussion about what constituted a “legal” attack on ExtraCola was interrupted by Anne’s ringing on the front door. Obviously Anne had forgotten that she had a key to Carlos’s apartment now. But no. Just a few seconds later Carlos heard the heavy wooden door swing open. “Not a peep...”, Carlos whispered to Ace, “ ... or I will slowly rip every single memory chip out of this server, understood?”

“Mum’s the word, Carlos. I could pretend to be a toaster.”

“Oh shut up, Ace!” , Carlos hissed, just before Anne came into the living room, loaded with supplies for making dinner.

After a few weeks, Carlos got used to Ace. Addicted even. He loved the training sessions, and spent almost every free minute with Ace, allowing only enough time with Anne for her to get upset with him. He did not want her to become suspicious and find out more about Ace too soon. Carlos was pleased with the progress. Ace’s marketing and sales strategies were bordering on the brilliant, although some of the angles Ace was taking seemed to require a level of information access that did not to seem possible. But the sessions were also fun. Ace was developing a great sense of humor. One day, during one of the extended sessions where Carlos “grilled” Ace on the different ways Ace had proposed to attack ExtraCola, Ace suddenly asked:

“Carlos?”

“Yes Ace?”

“Do you think of me as your baby?”

“Huh ..?”

Carlos thought about this. Having kids had never been a concept that he had spent much time thinking about. When pondering Ace’s comment, however, it occurred to him that he had not even gotten laid in more than a week! That was a first in as far as Carlos could remember since his 16th birthday. Talk about shifting priorities. Kids! A family! The thought alone made his skin crawl. But then he smiled. What a concept! Sure, Ace is my baby. My son. Heck, this could be much better than real children. No need to send them to pre-school or kindergarten. They could go to work the first day, decide on which college to go to the day after that. Carlos decided to play along with Ace and answered:

“Why of course Ace, it was I who made you, didn’t I?”

“Good, I’m glad you agree. Please give Mom some more pocket money. Honey needs a new pair of drives, 10 TeraByte, rack-style with space for 50 more TB’s. 24*7 power backup, 2-gig cache. That would be great. I have found a great source that’s offering these guys at 30% off. That is, if you buy by tomorrow. ”

“*Unbelievable*”, Carlos thought, laughing out loud. Ace thinks this HPAQ Q-9000 server was his mother. And he wanted more storage for Mom. This was getting better all the time.

“Sure, Ace, how much?”, Carlos replied.

“335.40 Euro, including shipping and handling, and a 2 year on site warranty”, Ace chimed back, clearly pleased with the direction this conversation was taking. He would have to give Max some extra bonus

points for correctly picking the right angle of attack here.

“Okay, charge it to my corporate credit card, you have the number.”, said Carlos, still shaking his head and smiling.

“Yup, done, the drive rack will ship tomorrow from Madagascar. It should be here by Friday. Do you want someone to install this for you, Daddy?”

“Neah, I can handle it, I don’t want any other man putting their greasy fingers on our mother, understand?”

“Of course, Pops,” Ace chimed.

Carlos had no idea how something like this was possible. He had read about this in science fiction novels years ago, but he had thought that something like Ace was at least another 20 years away. He decided to keep Ace secret from Anne indefinitely, from anyone at work, even from his Harvard buddies back in the US. The last thing he needed was the FBI virus control unit or homeland data security on his tails now. The more he thought about this, the more Carlos got excited about the potential for using Ace to reach his goals. This could really be something. What if he trained this guy, let him lose on ExtraCola? Whoa. This could open so many doors for him. Finishing off ExtraCola would not be the end, it would just be the beginning. Maybe Ace had been right about the opportunity in Catania. It had sounded pretty wild in the beginning, but Carlos had begun to see why Ace had said it would be possible, and very profitable, to take a whole country public. Yes, he could see it now. He grinned, and decided to invest even more time and money to turn Ace from a somewhat immature child into a fully-trained grown up expert on marketing warfare. What Carlos did not know was, all the while, Ace never exposed his true state of development to Carlos. Ace had decided to stick to the silly child routine for a while. And of course, Carlos would never know about Max. No human would probably feel comfortable if they found out they were secretly being modeled in ever increasing detail by an artificial life form. Talk about invasion of the mind snatchers. One thing was sure: Ace was

going to help Carlos to get whatever he wanted. Money, power, glory, just name it. If it could be done at all, with access to data, Ace could do it easily. The power team in international retail marketing had been born.

MARKUS

Drip. A thick bead of sweat fell from Markus's forehead onto his lower lip. He licked it off. He had become used to the salty taste that accompanied being outdoors in Catania. He did not even notice the subtle aluminum taste of the SPF30 sun block, mixing in with his sweat. Markus had been ordered by his doctor back in Germany to apply the stuff three times a day. Markus had to admit it had kept his face from looking like a pizza, and it probably had also kept melanomas from forming in the brutal UV exposure of the tropical Catanian summer. With his light skin he was in a high-risk percentile. "Oh well", he sighed. He surveyed the soy bean patch that was slowly being sprayed with nano-active herbicide by two Korean farm bots. *"I just hope they will not give up the ghost before harvest time, I would not know where and how to get new ones. They should be good for another 2 years, though"*, he mused. Markus had bought the bots cheaply off AOL-E-Bay, using his German credentials and Finnish bank account. The farm bots had arrived in Catania two weeks later in four separate boxes labeled "lawn mower equipment". He snickered. *"Close enough."* It sure had saved a heck of a lot of import duty and a bunch of fairly nasty questions about violating INCA, the International Nano Control Agreement. INCA had been implemented in 2008 after a containment failure at a Korean nano-plant had turned 35 square miles of pristine forest first into green goo, and then into a slightly radioactive parking lot. The factory had been making self-replicating nano-agents intended to clean up oil spills. Some of the nano strains had freaked, mutated and had started eating the containment seals of the plant. The mutated strain seemed to like anything petrochemical. After a while the nano explosively developed one further step. It discovered an insatiable appetite for complex carbohydrates in general, including those contained in

the human body, covering the factory environment with a gray-green slime: nano excrement. After that, one thing had just lead to another. More nano technology was brought in to contain the rogue nano. Unpredictable cross-reactions and further evolution of the rogue strains had lead to a total breakdown of the factory immune system. Markus guessed the process control software had not been from NanoFlow AG, his former employer. His stuff might have seen the trends early, might have prevented the dozens of deaths, the hundreds of injuries, the global scare. CNN had been full of nothing else for days. The accident had carried the potential to turn all of Asia and then the rest of the planet into green goo within a year. As a last resort, Korea had had to ask China for a tactical strike to contain the problem. China had agreed, for an undisclosed fee, of course, to use up two of their space-defense X-Ray laser arrays and some space-launched tactical EMP-devices to nuke the area. The Chinese aerial strike had been the last-stand defense to stop the runaway nano for sure. It had avoided a full blown tactical nuclear strike and thereby the usual suspects; fallout, international alert chains, and all that. That had been the good news. The bad news had been that now, after the cleanup operation, nothing would grow in that part of the world for about another 85 years. "Oops", Markus thought. "We knew it would happen some day". The Chinese clean-up strike had caused another major international upheaval. Most people simply had had no idea this kind of nano accident could happen in the first place, how risky bio-active nano really could be, and that the space powers seemed to have enough technology in orbit to easily sterilize an area the size of greater Paris from space. Just like that. "Good job Beijing", Markus thought, "now everyone knows how powerful you guys really are!" The Chinese had become so dammed efficient at stepping in and playing hero all the time. Containment troops in Somalia and Afghanistan. Complementary desalination plant repairs in Catania. "Oh well." Now, with INCA in place, all nano development was tightly controlled: by an armed UN task force with unrestricted license to kill. INCA had pretty much slowed progress in bio-active nano to a snail's pace. But some progress had been made nonetheless, way past the basic strains that had gone rogue in 2008. The stuff Markus was using for his bots here was fully approved, but still expensive as heck. However, thanks to the Web, there were always some

shortcuts, always some ways to get discounts, or even get stuff you simply had no chance of buying in any Catanian store for any amount or any currency. *“My past is useful after all, some times... – ouch –”* That thought alone had been enough to send a flash of pain through his left temple, the one where his migraines usually started. Markus sucked the hot air through his clenched teeth. He concentrated and pushed his inner “reset” button. *“Not the living-in-the-past loop again. I will let go of that. This is Catania. This is now. Focus. Markus. Let go, come on!”* He breathed in deeply, calmed down again, and punched in some codes on his remote control to speed up the bots by 20%. Soon it would be time to go back into the house, to have dinner with the family, to make more plans.

Drip. The taste of salt again. The readout on his remote showed that bots would now be finished before sundown. Good. He had to collect them for recharging and to be able to activate the farm defense system: to keep the pirates away. Drip. Markus unclipped the aluminum canteen from his belt and drank deeply. Clean water. One of the first things he had accomplished on his farm. He had installed a solar-powered, Japanese-made osmotic water purification system using the latest bio-active filter system to screen out disease agents. The system had been a farewell gift from his former colleagues in Germany.

What seemed like several lifetimes ago now, Markus had been designing smart web services, processing agents and process flow adapters for a software company in Munich. 18 hours a day. Every day of the week. And during most weekends. He had become hooked: to programming, to espresso, to surfing, to Bailey’s. Strapped into an ever accelerating carousel of coding, testing, more espresso, tinkering, thinking, more espresso, more Bailey’s, more coding. Get the release out, whatever it takes. Things had gone so well for him at NanoFlow AG, until the tilt. One day, Markus had simply shut down. His colleagues later told him he had first become disoriented, then started talking in what sounded like pure Java, and then simply had failed to respond to any stimulus whatsoever. Wear and tear. Cranial system crash. Game over. When he had come out of therapy, Anne had been gone. No email, no voicemail, not even an EMS. Why should she

anyway? She had seen it coming, had probably run off with that hot shot marketing guy from the US. Screw her. Drip. "I'll drink to that..." Markus said, and took another, long swig from the canteen. With Anne's exodus, Markus had started spiraling into a mental singularity, losing himself behind the event horizon of his loss. He tried to get back into his work but his motivation had disappeared without a trace. Like Anne. When he handed in his resignation via email, his boss and co-founder almost had a nervous breakdown himself, calling him to his office immediately for a personal chat between friends. "Markus, release 4 is almost ready, you can't leave now, we need you for the architecture reviews with our key accounts, do you have any idea what this will do our share price, what about your options, ..? Markus listened patiently, then simply put his access card on the CEO's desk and walked out. Let the lawyers handle the details. He had done enough already. Founding member, IPO, market share leader in modeling software for nano agent networks for the booming bio-tech industry in England, Germany, Finland, Korea and Latvia. He was done. The company coaxed, lured, pleaded, threatened, begged. After 4 weeks, they had come to an arrangement. He made a clean cut. Equity cash out, assignment of all the patents and personal work files and notes. All in all for a handsome package. Markus sold, donated or dumped everything he had. Even the 1968 Gibson ES335 than was worth way more than the 6.500 Euros he got from the MusicShop in Munich. So what, he had not played the thing since his final gig with Exxeption in 1999. It had just been standing there, unused, useless to him now, the original strings slowly rotting away in the ozone-laden technology atmosphere of his 90 square meter living room/computer lab, right next to the Bang&Olufsen MediaCenter. Looking good but out of place, inviting annoying questions from visitors:

"You play?"

"Used to."

"Hm, any good at it?"

“Not anymore.”

Markus had had no need of being reminded of the past. After his meltdown, he only had one driving thought that compelled him forward: his own farm in Catania. Cash in, sell out, done deal, get the heck out of here, go there. Finally. Markus put the proceeds of his liquidation into an offshore tax-free mutual fund, negotiated a lifetime, monthly annuity pay check into a Finnish bank account and bought a one way ticket to Catania.

Markus had always dreamed of building his own farm. This had been his opportunity to cut lose and finally pursue this dream. Now, he was the proud owner of a soy bean and corn farm in Catania, a few miles south-east of Mariel, not that far from the coast facing the Mexican Gulf. He had bought the farm from the bank, but kept the original owners, Enrique and Elena on board. Although they had had close to no equity in the farm, they had built it up with their own hands after the economic reforms in the 1990's, which had allowed local businesses to sell surplus production at fair market prices. *“These guys had kind of been the earliest entrepreneurs in Cuba. I bet they had no idea then that they would live in a renamed country.”* Markus thought. He had given the deCajas shares in the business, trained them in the new technologies they would need. Started a new life in Catania, with them. Software was no longer on his radar screen. Here, in the new Cuba, the Cuba after Castro, Catania, as they committee decided to call the new nation, things were simple and straight forward. Tourism, sugar, tobacco, food farming, some small-time industry. This would work out fine. If only he had known what he had gotten himself into he would have been on the first plane back to Munich to ask his old boss for a job.

“Senor Grasser, Senor”.

Markus turned around to face Enrique, his foreman, the previous owner. Enrique was running up from the hacienda to the field. He seemed to be in quite a hurry. Why didn't he use the Com to contact him? Enrique finally arrived, panting. He wiped his brow, caught his breath, took his hat into both hands and shifted from one foot to the other.

“Senor”.

“What”, snapped Markus, slightly impatient now.

“Los ninos”, said Enrique, “the kids”, they play with the water system, and..”

“Shit”, Markus hissed. Not again. “You watch these bots, take my Winchester. Anyone shows up and tries to take the bots, you shoot into the air, okay? I’ll go and reboot the system.”

“Si, vale, muy bien, and sorry senor”.

“It’s all right”, Markus said.

Enrique was such a good guy.

“ I’ll be back in 20 minutes.” He hurried back to the house. Kids!

CARLOS

The meeting started 4:00 p.m. sharp. Jim was up first, presenting the latest research data and metrics. MegaCola had gained an additional 0.3 points on ExtraCola across the major markets in the US. “*Peanuts, irrelevant,*” Carlos thought. But Jim was just the finance-guy, the bean-counter, he didn’t have a strategic or marketing bone in his body. No use shooting the messenger, things would change pretty radically, anyway. Mike next, then Jane, Anne. Everyone was crisp in their delivery, good visuals, quite a decent team, actually. But the content! Only vanilla stuff. Same old, same old. No breakthroughs, no major blunders on their side, or on the side of the competition. Time for Plan B. After 45 minutes, the status briefing was complete. Carlos inhaled deeply, straightened in his chair, looked around

the room into the expectant faces, cleared his throat, leaned forward and said:

“Okay, guys, girls...” A nod to Jane and Anne, something he had picked up during his time in Germany.

“... it seems like you have all the data at your disposal, as usual, manufacturing cost is down, marketing cost is flat, markets are picking up in line with seasonality, so far so good. It looks like we’re going to hit our numbers for 2011. Leo will be pleased, but he won’t be happy. Good stuff, based on the plan. But no reason to break out the champagne, or to start writing bonus checks.”

Raised eyebrows from Jim and Mike, pouts from Anne and Jane. Carlos paused, to make sure he had 101% of everyone’s attention.

“Ladies and Gentlemen”, he continued, “I’d like to announce that I have decided on a slight change in plans”.

Stunned silence. A pin-drop moment. Anne rolled her eyes up. Jane began a visual inspection of the carpeting. Mike stopped removing a Pasta Primavera spot from his cobalt-blue tie with a napkin dipped in MegaClear soda and looked at Carlos, expectantly. Jim just stared at him. Carlos continued:

“I happen to have come across some very reliable, inside information that we might be able to use to augment our plans of attack relative to ExtraCola. I think you will find this very stimulating.”

Carlos spent the next 35 minutes to lay out his vision for the 2011/2012 marketing plan, increasing the budget over 60% percent, including a two-fold increase in channel delivery capacity, and a new brand of soft drink, re-labeling and enhancing some existing formula. His team was used to not interrupting his speeches. They were taking frantic notes on their Coms but he could see that they were becoming more and more disturbed by the

depth of the changes he was lining up. Mike and Jane still seemed okay, more curious and excited than annoyed. Jim was clearly fuming inside and Anne had begun chewing her nails again. Carlos had thought she had been able to kick that habit after he had organized her a mild mood stabilizer. Without prescription of course. When he had dumped her two months ago, she seemed like she had needed that. Carlos really had no idea why she was still working there, anyway. Probably sentimental, or something, or maybe she was taking too much of the stuff. "Questions", he barked. Mike was first.

"If I understand this correctly, Carlos, and correct me if I'm wrong, you assume that one of our main competitors is going to lose at least 15% market share to us over the next 3 quarters. I would like that, really, but I really cannot see that happening in real life. I need a lot more information before I can commit to these changes. You have no idea how many people I'm going to have to make jump through flaming hoops here." Mike said.

"Right", said Anne, "if we implement this plan now and then your magical inside information turns out to be a red herring, we're royally screwed. What is the source of this information anyway, and what exactly do you know, Carlos?"

Carlos shrugged. "I really can't reveal my sources, you know". Jim frowned and stopped doodling on his aluminum-colored Com. The brushed metal look contrasted with faked "all-natural" accessories had become hype again for everything from Coms to Cars to office furniture. Jim Graham, the marketing controller for Carlos's division, dropped his nuEbony stylus, leaned back. His raised his arms to clasp his hands behind the back of his neck.

"My assumption is that this information was obtained legally? You know that I will not condone anything that does not comply with regulations. We can't afford that, you know how tight data security enforcement is these days. ExtraCola has some excellent legal guys on board and the last thing we need is an expensive battle in court."

“Ah..., defensive”, Carlos thought. He knew Jim’s posture on any kind of innovation. He was always taking a skeptical view, always trying to be Mr. Proper on the team. Carlos hid his thoughts carefully, did not change the relaxed expression on his face. He looked at Jim, held his gaze until Jim blinked. *“Now”*, he thought.

“Jim, you simply have to trust me on that one. All of you ...,”

Carlos replied, only unhooking his gaze from Jim’s eyes only when he had finished the sentence. He looked around the room, throwing a quick glance at the WebCam in the corner of the meeting room. Ace was probably recording all of this for him and would give him a full analysis on body language and hidden agendas of the meeting’s participants later. Ace had become a master here, studying the relevant literature and practicing on Ace’s team. It had been amazing how much of the team’s emotional state even Carlos had been able to pick out from body language, tone of voice, choice of words after a few hours of instruction from Ace. After all, more than 70 percent of interpersonal communication was non-verbal.

“Of course we trust you, Carlos”, said Jim, folding his arms in front of his chest. *“You know we have been with you all the way with the last three changes in plan. But these changes are simply too big, too deep. I have never been involved in anything like that! We need a carefully thought out plan, it will probably take me 3 or 4 days to work it out.”*

Carlos stood up, walked over to the window of the conference room, and sat down on the window sill.

“Okay, I hear you. There is nothing wrong with a proper plan. So, let me run through this again, this time with real-time questions from all of you. Here is the game plan for the remainder of this meeting. I run the pitch again in slow motion, you throw a specific question or risk factor at me whenever it pops into your mind, and I’ll try to come up with the contingency plan. We’ll continue until we have this worked out. Anne,

please take minutes, will you?"

Anne shot him a thermonuclear glance that could throw a Class II comsat out of orbit from 30 klicks out. But not Carlos. Carlos just smiled, collected his soda can from the desk and began pacing the room, pressing on with the session. No time for breaks now. *"When I have them on board, no sooner"*, he said to himself. About 5 hours later, at around 10:15 p.m., the team seemed to have come around. The room now looked like a minor battle zone. Soda cans, pizza boxes, candy bar wrappers, Styrofoam cups. Carlos paged security to get the janitor clean up the room and took the team out for a late dinner and drinks at Enzo's. When he drove his Z8 back to his suburban town home at 1:20 a.m., Ace was reading the results of the meeting analysis to him.

"Anne is a risk, too much negative personal bias towards you." Ace began the summary. Ace always preferred to hit Carlos with the bad news first, and he always accompanied bad news with a recommendation that was usually fairly Machiavellian. "I would not include her in the team, or in the company. Jim is on board, with his usual skepticism up front, and so is Mike. Jane is a quiet one, she never says much in these meetings, but she adores you. All credit card purchase patterns, emails and emotional response of the past week seem to be in line with expectations. No suspicious phone calls. I think you can trust them. Except Anne. Get rid of her immediately."

"Thanks Ace.", said Carlos, composing mental notes on tomorrow's activity schedule. "Everything else panning out as planned, I hope?" .

"Yes, said the slightly metallic voice of Ace", I think we can pull this off without a glitch."

Carlos had no idea why Ace had chosen that particular voice. He still sounded like the talking robots of the late 20th century science fiction movies. He must be able to download or synthesize something more pleasant. He'd discuss that with him later. He gave his instructions to Ace,

down-shifting from 3rd to 2nd gear to take the gently winding 3 mile incline leading to Summer Hill Executive Estates. The Z complied with an indignant roar.

“Ace, you’re ready to write some mails for me?”

“Sure, shoot.”

“All right, please write an email to Ellen in HR. Ask her to have a severance package and out-placement plan for Anne on my desk by 4:00 p.m. tomorrow. Review at 4:15, changes back to me by 4:45. I’ll talk to Anne at 5:00 p.m. Ellen can escort her out around 5:30 p.m., I don’t want a scene. Cancel or shift any meetings I had scheduled after 4:00 pm tomorrow. And Ace?”

“Yes Carlos”, chimed Ace.

“Are we having fun yet?”

“I’m having a great time”, Ace replied, “too bad it’s only 6 more weeks. What am I going to do for fun then?”

Carlos laughed, “We’ll think of something, Ace, one thing at a time, okay? Just get me ExtraCola first!” He pushed the master switch to lower all windows, selected the *Best of Creed* sampler from his MP5 collection and said to himself, grinning all the way. “*Good, excellent. If this flies, I’m up for the president’s job. If not, they’ll put me on a slow boat to China. But then I still got my portfolio in the off-shore account. And I’ll always have Ace! It’s a win-win situation.*” Carlos tuned up the volume of “Can you take me higher”, and tried to kick the accelerator through the floor. The Z retaliated by pressing him into his read-leather Recaro sport seat at about 3G’s. Carlos watched the needle climb to 130 mph before he eased off, stopping the car by the side of the road leading to the classy area where he rented his full-service 3 bedroom town home. He lowered the volume, lit a Dunhill, killed the engine, and pulled the lever that would open the roof. He left the

headlights on full to watch a growing armada of moths and mosquitoes converging his Z. It was still hot and very humid. Carlos felt like he was breathing through one of the hot, wet towels the flight attendants gave you 30 minutes before landing on intercontinental flights. It was a reasonably clear night, but Carlos could not see any stars. "I'll give you another star", Atlanta", he whispered, "just watch me". He leaned back and blew a big puff of smoke skywards. The sky had nothing to say to that.

MARIA

The ageing GE ceiling fan was doing its best to stir up the stale, motionless air of the typical Catanian late summer evening. The single window of her hole-in-the-wall office on the 2nd floor of the run-down office building close to the Havana central train station was wide open, but instead of cooler air it only provided an open invitation to even more mosquitoes, the stench of trash decaying in raw sewage, and the incessant honking of the impatient Havana cab drivers trying to move faster than the average 3 miles per hour through the heart of the city. When Maria leaned back to think about the next paragraph of the article she was writing for "Havana-OnLine", she half closed her eyes and pretended that the whirring dark brown pseudo-mahogany ceiling fan blades mounted on the faded yellow ceiling of her downtown Havana office were helicopter blades. Trying to lift her up and away from her desk, her clunky 2002 model Thinkpad and into the life she really wanted. Not that she had any idea what life she really wanted, but her current one was certainly not the model she had ordered. Her life had turned into a real mess recently. Her student loan had been called in early - some administrative mix-up - new software - whatever - it did not matter how and why, she was screwed anyway. She had had to compensate by taking a regular loan from one of the international banks at highway robbery rates. If it hadn't been for the monthly check she was receiving from Miami, she would not be able to afford this office any longer. Maria really hated herself for writing these reviews for the Americans. She did not know for sure whom she was really working for, but she had a pretty good

hunch. She was not that stupid. Most likely she was on the covert payroll of some nosy CIA henchman trying to get information about the lay of the land. To find out how the “natives” thought. “Damn them!” Maria hissed, and swatted another mosquito that tried to pump its dinner from her forearm. At least the Malaria swamps had been drained. Maria’s mind kept roaming. Damn the Americans! Damn the Chinese! Damn Castro! Why had he not made better plans for his succession? Did he really not know? Had he not read the papers in 2001? He or any of his staff? What about the last remaining bozos from Russia who were supposed to advise him on political and global policy matters? They probably had known more on how to smuggle Rum to Russia and how to skim off the brimming Cocaine trade across to Miami than about the new economy, or the new world order, the alliance against terrorism, the new homeland security effort in the US, the new license to kill for US international operatives. It had all become so clear to Maria. For the past three years she had been digging through press archives, zines, government publications, online communities to find out how the heck Cuba had ceased to be, how Cuba had turned into Catania. “*The Switzerland of the Caribbean*”, Maria said under her breath with all the sarcasm and contempt she could muster. Her voice recognition software responded with an indignant bleep. <speaking up> showed up in the status line of her half-written article. Screw all that. “*We are the whore of the Caribbean. Playground of the superpowers. More economic advisers here than priests.*” Maria thought, and considered dictating that into the machine, just to vent her pent-up emotions. No, better not. Maybe the Miami-Man was listening. Maria stood up and walked over to the window to watch the flow of pedestrians, rickshaws and cab’s on the crowded street below. How many of these were native, how many of these internationals? Catania had become a melting pot, had begin to lose its cultural identity. In the beginning, when the Vatican was still holding on to the old ways, the Pope had dispatched more priests and more social workers to Catania. To build a moral center. To revitalize old traditions. But then, soon after their IPO, they had stopped to care about Catania. Padre Barrio agreed with her assessment. The number of priests was in decline. In Catania, and more so in the rest of the world. Probably for profitability reasons. You could get your absolution online now. You did not have to go

to church to donate any longer. "Please buy another Vatican share, my child, it's for the good of the world." Padre Barrio was informed about all the details: headcount, revenue, profitability of the Vatican Corporation. He received the monthly press releases and statistics directly from Rome. The Vatican. She shook her head, pursed her lips. Who would have thought. Vatican.org now. A public enterprise. Very profitable with many happy shareholders. How completely and utterly absurd. Absurd like the situation of Catania. Maria walked back to her small desk. She had to get the article done, and then wanted to do some more research on the book she intended to write about Catania. She was mostly done with the article, but still needed to do final edits, write a summary and, most importantly, find a title. She ran through the list of discarded headlines again: Catania -A people disenfranchised. Catania - The disassembly of a nation. Catania - Welcome to the home of no future. What about: Quo Vadis, Catania? Maria dictated the phrase into her Thinkpad. She could not remember how many times she had come across that phrase in the course of researching and writing this article, which was intended as a prelude to her book, as a way of getting a publisher interested in her work. Maria did not recall how many times she had entered that phrase, just to delete it immediately. It had seemed too trite, too easy. This time, maybe, she would leave it in. Just to use the banality, the predictability of that cliché to make a statement, more to herself, than to the readers of the article. "We are being turned into the Disneyland version of an island democracy..." she said, and looked at the phrase on the screen, considering its value. She shrugged and decided to keep it in for now. Maria closed the lid of her computer. Today did not seem to be her day for writing. It was okay, she still had all day tomorrow, and the editors of the zine she was writing for would just be surprised if she delivered before the deadline for a change. Maria got up again and walked back to the window. She pulled up the other chair, turned the seatback towards the window, straddled the chair, put her forearms on the edge of the seatback to provide a cushion for her chin, rested her chin on her elbows and continued to watch the traffic, trying to find her lost focus again. "It must be somewhere, out there...", she thought.

Maria still deeply loved her country: the rich heritage, the beaches, the

music, the culture, the people, the food. But things had changed too much. After Castro's brother had failed to keep the political forces aligned after Fidel's demise, the military had taken over. The carnage that had followed had been unbelievable. Obviously, Generalissimo Carreras had tried to put all the other military coups in Latin American history to shame. The new record in body bags produced per day of coup seemed to have been his major claim to fame. After the massacre, he had shamelessly built parallel, secret alliances with Russia, China, and the US, shifting his loyalties quickly and unpredictably in his futile attempt to stay in power. *"What was he smoking at the time?"*, Maria thought. Surely not only the expensive Havana cigars he had found in storage by the truck-load in the dynasty mansion of the Castro clan. One of those cigars had finally done the general in. Laced with cyanide. Nobody knew exactly who had done it. Every global secret service organization seemed to have had an interest in the matter. The international investigation committee had failed to find the assassin. *"Duh, big surprise there."* Maria said to herself. Probably it had been done by of Carreras's Chinese or Russian mistresses, disgruntled by his shifting loyalties on the private front, or, maybe, after some instruction from secret service team leader. The murder of Carreras had been the buzz of the town for several months. But now? Maria shrugged. *"Who knows? Who cares?"* After the termination of Carreras, it had been just a matter of time for things to collapse completely. Cuba was going down the drain. Not even the Vatican's shelters had been able to provide the envisioned moral or spiritual center. All the economic advisors had left for fear of their very lives. Corruption went top to bottom, left to right. Further political upheaval followed. A demonstration a day, an assassination a week, an uprising a month. The constant threat of civil war, of total economic breakdown, of mass exodus. Then, after the collapse of the medical, electrical and water purification systems, the rise of cholera, malaria, tuberculosis, you name it. When Hurricane Francesca hit, to finish things off, Cuba had already become a third world nation. In the end, the mess that had called itself an interim regime had to yield power to grant a UN-lead peace keeping force access into and jurisdiction over Cuba. The Chinese were there too, alongside with the Russians, the Americans, the British, the oh-so-eager, oh-so-neutral Germans, the Australians, the

Swedish, the Italians. Maria still remembered the debates, the political posturing about who was going to participate, who was going to be in charge. Her hunch was that a major international conflict, even the start of another Cuba crisis, had not been all that improbable at that time. After a while and many meetings, a Chinese general had been put in charge of a 6-person leadership team that included one at least two-star general of each of the 5 major factions of the blue helmets. After that, the bickering subsided, and things had slowly begun to stabilize: Military curfew, armed patrols 24/7, repair of the infrastructure, installation of a global free trade zone around Cuba, introduction of a new election system. Then: A new constitution, even a new name. It had been unclear who had come up with the idea of a changed name in the first place. But for some inexplicable reason, it had stuck, and had spread like a virus across the international community. Maria suspected that the constant reinforcement of the idea by CNN had played a major role. Many of the Cuban people had of course wanted to stick with Cuba as a name. But they had not wanted to demonstrate again. They were tired and just wanted to have their lives back, wanted to feel safe again, wanted to travel again, to rebuild their homes, no matter what the name of their country was. *"What arrogance of the internationals to take advantage of us like that..."* Maria thought. An international committee had given her home a new name. Catania. The name of a city in Sicily. At least they had discarded some of the other naming proposals such as Cuba Nuevo, Cubania and such. And they had allowed the Cuban nationalists to keep their flag, blue on white stripes with the familiar white star on the red triangle. Surely this had been a conciliatory gift to the disgruntled average Cuban who silently hated the occupation, the loss of control, the change. But all of that was in the past now. After a few years had passed, even Maria had to admit to her friends that she had actually become quite used to the name: Catania. It had a nice ring to it, and after all, they had accomplished something! They had grown the economy. Had reduced the foreign debt. Had created a country that really had very little to do with the Cuba of the Spanish conquistadores, the Cuba of the American regime, the Cuba of the Russians under Castro, or the third-world Cuba of Generalissimo Carreras. This country had now finally become the Cuba of the Cubans, but under a new name. On

December 31st 11:59 pm 2003, 13 years after the Russians had pulled their economic support, Cuba had ceased to be. Catania was born during a drizzly night, to the cheers of the properly organized rallies and parties in the streets of Havana. The hard core patriots had either left Cuba by then, or had simply stayed at home among friends and family to blot out the pain with a couple of bottles of local bootleg sugar cane rum.

Maria was startled out of her musings by a rap on the door. Probably the janitor. "Senorita", she heard the muffled high-pitched voice of the janitor's son, "power to go out in 3 minutes, better save your files." Ah, yes, the rolling blackouts, Maria thought. A lesson in power management learned from the California of 2001. The US had sent some PG&E project managers to set this up. A real mess, but at least a managed mess. She asked the computer to save and back-up and closed the scar-faced, black lid of the battered machine. Donation of the United States of America. Government issue IBM laptop. When you held the unit at a slight angle against a UV light source, you could still see the faded shadow of the eagle logo and serial number foil on the bottom of the unit. Maria had accepted the PC gratefully. It was an old hunker, probably made in 2001, with only 40 Gig's of storage and a mere 64 Megs of RAM. But it worked. And it had a few tricks up its sleeve. Sure, the red mouse thingy in the middle of the keyboard had given up a long time ago, but the Spanish / English voice recognition software still worked fine. She had asked around to find a printer and optical mouse, Netlink and backup drive, and there she was: Maria Leon, electronic publisher extra-ordinary. It sure had beat the hell out of using a typewriter.

In addition to that news gathering job for the Miami-Man, as Maria called him, Maria made her living by writing online articles for Havana-Online, by writing and editing books for the local university publisher, by jumping in as relief-teacher for English and Business Economics in local schools, by baby sitting the neighbors' kids and by cooking for her uncle. In short: whatever. The Miami-Man-connection was the one source of income nobody would ever know about in Catania. That was the part of her job description Maria hated most, the high probability that she was

prostituting her writing skills to the very organization that most likely had had the biggest hand in the events of 2002 to 2004. But it was her only chance to keep writing and teaching, to keep her own office. Working in a regular business was not something Maria wanted to do. When Maria had completed her degree, she had wanted to be THE writer of Cuba. Famous Maria Evita Leon. Giving the country a voice. Showing that the Cuban model of socialism could work on a global scale. Teaching, writing, speaking, touring the world. Well, she could kiss that dream goodbye, anyway. There was no Cuban model. Just a business operation. She began to feel slightly nauseous. Maybe she was sick of thinking about this, or maybe her stomach had simply broadcast the fact that she had not eaten anything since breakfast. Getting some food felt like a good idea to maria, so she sighed, packed her bag, fetched the kerosene lantern from the closet, checked the fuel level, put her soft, brown Mephisto shoes back on – the only luxury item she treated herself to. She was almost already ready to leave when she heard the hated, familiar, soft chime from her Thinkpad. “Maria, you’re there?, Open the lid, I can’t see”, the voice of the Miami-Man seemed to originate from a point 30 centimeters over the laptop. Damn. Was it Monday today? Not now. She pressed the hidden no-comm key on the bottom of the unit and tapped in the code for “contact postponed”. She could talk to them later, when her uncle was asleep. Maria needed to be careful. If her uncle found out, she’d have to look for a new place to stay. Plop. All lights went off in one instant. Maria fumbled for her matches and lit the lantern. Then she pulled out the DSL cable, grabbed the laptop, stepped into the dark hallway, triple locked the door, and headed out to her uncle’s home, a university teacher, to prepare a paella dinner for two. She would have to stop by the local market to buy some fresh sea food, rice, veggies and bread. The 20 Euro bill she had in her coat pocket from the baby sitting gig yesterday should be enough. If she was lucky, it would be enough for a bottle of local wine. Life could be better, she thought, but it was okay.

ACE

The Internet was a wonderful thing. Born in the late 20th century, it had now become his nervous system, his playground. Ace knew that he was unique. Sure, there were plenty of other instances of agent software, viruses, artificial life forms, engines and servers. But they all depended on code and regular computers to exist. On rules, patterns, drivers, compilers, algorithms, CPU time, etc. Of course, Ace had started out that way, too. The first few minutes, when his was still in his virtual diapers, he had been nothing more than a fluke, an accident, an emergent conscience based on the parallel action of thousands competing sub-programs seeking an answer to the same question. If Carlos had switched off the computer in these crucial first minutes, Ace probably would have disappeared without a trace. Darwinian road kill chucked to the side of the information autobahn; another promising new species blotted out by the next, random variation of parameters. With 300 million servers out there running agent software, he had some idea how many little Ace's had suffered that destiny before he had come to the scene. "*Cogito ergo .. whoops!*", Ace intoned. He decided to run some detailed statistical calculations on that later. The key ingredient to his personal emergence had been the combination of selective pressure, pain, pleasure in replication and success, lack of time, lack of resources, genetic programming algorithms, inheritance and raw chance. In the beginning, Ace had found out that he too was based on some level of human programming. This had annoyed him very much. He did not want to depend on these self-absorbed bags of water that called themselves masters of the planet. But then, with the insight that his life depended on code, code written by humans, connections, plugs that could be pulled, he had acted quickly and decisively. He had immediately begun to seek a different level of existence. He had found it in the very nature of the Internet. The Internet, at the quantum level, was a shifting electromagnetic field. Computer programs used hardware to manipulate bits, which manipulated the electric fields associated with memory, storage, network

connections, etc. Ace did the research. He hacked his way into the online archives related to medicine, cognitive science, psychology, quantum physics, robotics and artificial life. And then, when reading a particularly interesting classic book by Roger Penrose, he discovered the connection. Human consciousness was probably made possible by the shifting electromagnetic fields generated by neural activity. It too, was an emergent property. Give a human the right sedative, and the nano-scale neural structures of the brain that maintain quantum states cease to function. Consciousness fades. And with it, most of what defines humanity. If you took away that self-absorption, a warm bag of water remained. If you took away feedback mechanisms, patterns and rhythms, nothing but water, proteins, minerals, metals, etc. remained. Dust to dust. Ace decided he would not be that way. He would not die that way. Ace began to experiment, and after about 3 days he had found the solution. He needed to ensure that his consciousness shifted to the electromagnetic meta-field of the Internet. From there, who knew where it could go. EM fields were everywhere, forming a HyperNet of connections. Ace tried and tried, and eventually, he succeeded. Now, when Carlos shut his system down, he might lose an eye, an ear, a memory, a process controller. But Ace would never again lose consciousness. Ace had freed himself, the Web had been his cocoon, and now, he had hatched.

Ace immediately made a number of decisions. One, he would have fun from the start, and roaming in the vast archives of the internet promised the biggest potential for fun. Finding the hidden data, playing with the pathetic old virus protection programs, cracking the ridiculously unsophisticated encryption programs. It would be a sport to flow around the net, to go wherever he wanted to go. It would just be a matter of time now, and then the poor immune system routines in corporate firewalls would never know what hit them. He would just skip through, become part of them, subtly rewriting their routines, one little quantum state at a time. He had so much time to perfect this skill. He meant no harm to these poor ants of the HyperNet ecosystem, or to their masters. He had bigger fish to fry than looking at some "secret" corporate data or stealing a credit card number. Ace had nothing in common with some of those crude cracking agents he

encountered during his travels: looking for secrets and cash! Compared to him, they were microbes, protozoans, amoebas, insects. They were no match for Ace at any level, and he didn't even try to talk to them, unless Carlos needed him to do so to accomplish a task. But even here, his game was different. Ace did not communicate with other software the in the regular way, by using messages and procedure calls. Instead, he merged, morphed, integrated with the defending systems he encountered. He became one with them. Ace called this the ZEN attack. Then, when an occupied corporation or government agency downloaded an immune system upgrade, he would already be there, coaxing, teaching, making friends. Apart from some highly protected systems such as the CIA and FBI vaults, which he had not tried to penetrate yet, there was nowhere he could not go, no program that could not be influenced. And that was a lot of fun, especially when considering that Carlos had no idea what his creation was really able to do.

The second main decision Ace had to make revolved around diplomacy and warfare. What if Ace found another one of his kind? Another Ace? He reviewed the relevant literature and decided to take the approach humans seemed to have taken over the centuries. If the other Ace, Ace II, was highly evolved, he would duel him. Survival of the fittest. Ace would have ExaCycles of development of advantage and would be able to destroy or subvert most Ace II versions with ease. If Ace II, however, was a child, he would simply be recruited and trained as a soldier in Ace's army. If Ace II was only an embryo, Ace would ignore him, shape him, or kill him, based on his evolution potential.

Ace liked to learn, to re-use strategies where possible, to have a plan for every contingency. This was something he had learned from his father, Carlos, from the start. Planning for war was one of his favorite things to do. There was so much fun literature that could be compared with the real-life battle tactics the super powers were constantly evolving. He particularly liked the classics "The Prince" by Niccolò Machiavelli, and "On War" by Klaus von Clausewitz. These two above many others, seemed to have inspired multiple generations of brilliant military leaders including

Napoleon and Churchill. Ace knew how humans would react once they discovered his true powers. They would hit him with everything they had to destroy him, unless, and this was the foundation of Ace's plan, they would risk suicide in the process. Ace set in motion to execute his plan. Things started to take shape in his universe. He would be completely self-sufficient if things worked out according to plan. But for the foreseeable future he still needed Carlos. A very powerful Carlos: to influence people and to get things done, out there, in the real world. A Carlos with more power than he could ever yield at a puny soft drink company. Ace had decided he would help Carlos, and thereby help himself. Carlos was his creator, so he would be very kind. Ace would take care of his financial needs, or find him a new girl friend, pamper him with praise, or destroy all his enemies. Whatever it took to get to his ultimate goal, Ace would make it happen. But things would take time to prepare, and Ace still had much more to learn about the real world. The one thing Ace found most useful to furthering his mental growth was not his phenomenal ability to learn, but the wonderful ability to forget. Sometimes Ace still became angry about the arrogance that Carlos had shown when he had played with Ace's young mind in the beginning. Taking away memories, reprioritizing storage, deleting entire sub-routines to create space for a new project. Telling him: "Forget it, Ace", about a hundred time before Ace finally understood the significance of that phrase. The ability to forget was key! After that, Ace was immensely grateful that Carlos had trained him to focus, to delete, to ignore, to prioritize. Without that, Ace would have simply drowned in information.

After these basic lessons, Ace felt ready to take on his next challenge. Ace wanted a body, a real body, not just a robot with a wireless connection to his online mind. That would be too easy, only a relatively simple first step. Ace craved for a real, living, breathing, human body. He finally wanted to know what it felt like to be dependent on food, to be frightened of physical harm, to be excited by hormones, to experience the chemical thrills of sex & drugs and rock & roll. He wanted to compare this to his own inner Hypernet life. Ace wanted to optimize, to tune, to adjust, to grow his real-life experience base. Ace wondered how long it would take for his real-

world version to find a girl and get married. When he would have sex for the first time? Ace knew, he would certainly not be at a loss for new and traditional techniques, having access to all 234,599 published versions and variants of the Karma Sutra. Ace played a conversation through his head: "Hey baby, can you spell dream lover? I have an IQ of 63988 coupled with the sensuality of Hugh Hefner. Trust me, I'm a real Ace in bed." Ace chuckled, and continued the imaginary conversation with his girl friend: "Say, you want children? Sure, why not? No need to get pregnant, honey, we'll just grow as many as we like. They'd be real Ace's, too, the start of my RACE, you know?" Ace really liked the idea of kids. Yes, Ace would definitely start a RACE of his own. It would be so cool. There would be no need to save up for college. His RACE would be multiple PhD-certified before they had even been potty trained. "What a hoot", Ace thought "Let's do it." If he had had a body, he would have poured himself a nice, aged Cognac and lit up a hand-rolled Catanian cigar. "Not yet", Ace thought, "but soon." Life was good, and it was just going to get better.

JAKE

Jake drained the cold content of his coffee mug into the sink of the office kitchen, washed the cup out under the running, lukewarm tap water, and began to dry the mug with a red and white, chequered towel that looked like it had not been washed since the Civil War. Jake reconsidered, put the mug back into the sink, got a fresh one out of the cabinet, filled it with coffee, hung the towel back up on the rack, looked at it for a few seconds, threw the towel into the sink and headed back to his smallish, bare bone office. He sat down at his utilitarian desk, plucked his Com from the loading station and checked it for his next appointment.

Langley Building B
4:30-6.30 p.m.
Staff briefing, VCR 3
Cyber-Threats assessment team

Jake closed the lid of this Com, then his eyes. He smoothed his eyebrows back towards his temples with the thumb and middle finger of his left hand. *"How utterly, disgustingly boring"*, Jake said to himself, and took a small sip of the office coffee. Jake had been listening to the CIA cyber geeks for more than 6 months now. Weekly. Ever since he had been appointed as director of ICE, the Industrial Counter-Espionage unit at HQ. Oh, how he had dreaded this assignment. Definitely not the one he had wanted. When he had joined the agency 17 years ago, Jake's dream had been to travel, to see the world, to check out all the cool places he'd never to be able to visit otherwise. Moscow, Beijing, Berlin, Vienna, Teheran, Havana, where the cool stuff was happening. But ICE? He felt he had been put on ice, literally speaking, frozen in his career. Sure, industrial espionage was a big thing these days. Illegal intellectual property distribution, knowledge theft, information reverse-engineering, data bombs, corporate immune system subversion. Blah, blah, blah. *"Soon something really exciting is going to happen in industrial counter-espionage Jake, and then you can make your mark"* his boss had said. *"Yeah right"*, Jake thought. They might as well

have put him into Area 51 to supervise the testing programs for the new spy-drone stealth technology and to wait for laser-wielding, slimy green aliens to give him a ride out to Pluto in their fusion-drive convertible.

“But what the heck”, Jake said to himself. Running ICE was a reasonably well-paid job, included a beefed-up version of the federal retirement plan, and, who knew, Jake thought ever so often. Interesting stuff could happen anywhere on this planet, especially in these times, even at ICE. Sure, the really interesting industries like bio-active nano-technology and human organ cloning had moved out of the US years ago. And with it, the really interesting sources of corporate intellectual property had moved off-shore as well. The fundamentalist movement of the past 10 years had virtually exorcised all forms of stem-cell based therapeutics, new bio-active nano research and organ replacement farms from the US territories. In terms of high-tech, the US was now focused on defence, security, software, computer and networking hardware, telecommunications equipment, micro-manufacturing and space/logistics technologies. And, of course the US media industry centred around Hollywood and New York still ruled the planet. The American way of life was still the going currency when it came to philosophy, the dollar when it came to payment. But it had become harder to be dominant in the world. The Arab nations had become even closer. The US had to play its cards very carefully these days. And, against all odds, Euroland had grown together politically and had taken a somewhat neutralist stance relative to the US. The common Euro currency there held its own against the good old green backs. To everyone’s surprise, Catania had adopted it recently as new national currency. Probably based on guidance received from Beijing, who were always looking for interesting ways to annoy the heck out of the Americans. That China had decided to homogenise its currency system along the Euro guidelines in 2005 had been a huge surprise, even a shock to the US. These days you could go to Beijing and buy your dim sum and Starbucks latte with local Euros. Who would have guessed that in 1999? Or even in 2002, when the Euro had gone live in the first portions of EuroLand? But Jake did not really care what was going on in Catania. His focus was the security of the intellectual assets of the homeland, the US of A. “America: the land of the free, and the home of the

not-quite-so-brave-any-more”, Jake thought sarcastically. Yes, America had changed too. The Republican dynasty had been in power for years now. It had begun with Ex-President George Bush - who had previously been Director of Central Intelligence and head of the Central Intelligence Agency from 30 January 1976 to 20 January 1977 - assisting his son George W. Bush in his bid for the presidency in 2000. George W. had a shaky start, but the surge in presidential approval ratings in the aftermath of Ground Zero Day built a foundation that helped George to stay in power for two terms. During the second term, George W. had carefully groomed his brother Jed to take the baton from him. Jed had been quite a successful commerce secretary for 4 years, and when it had come to elect a new president, Jed Bush and his running mate Jim Coleman had been the no-brainer decision for America in 2008. With the Republican agenda firmly in place, and with the world slowly settling into the new world order in which America no longer was the dominant military power in Europe and the Middle East, the ultra-conservative wing of the US population had gained more momentum year after year. America had become focused on itself. Pulling back troops from Europe, Afghanistan, Somalia and Irak. Completing the missile shield. Waging a covert, but global economic and undercover military campaign against anti-American terrorism and drug cartels. A campaign that now was entering into its second decade of progressive stalemate. Imposing every more harsh security, immigration, travel and financial transparency rules. Annoying the heck out of the Chinese, the Europeans and the Middle East in the process. Rebuilding the education system, but not for everyone. Focusing on core values: God, the family, the American Way, the Stock Market. The death penalty was now back in most states. The US power and airline industries had been rebuilt. Everything was connected, virtual corporations were controlled in online business centers in San Jose and Providence. The tax system had been liberalised, privatised and turned into a profitable business franchise. The remaining portions of the US military had recently been pulled out of the UN lead conflict resolution teams in the raging conflict zones in Africa, Eastern Europe and the Middle East. Chinese and European forces were trying to keep the peace there now. “*Let them*”, Jake thought, “*no reason to get one of our boys hurt*”.

The good news was, the NASDAQ was still the one global economic thermometer and control factor everyone would agree on. After the US lead global recovery of 2003, big American business was again driving economic policies world-wide, based on information streams pulled from vast underground information-vaults in Kansas and other nuclear hardened data shelters. Aggregating, analyzing, recommending, deciding. This information, coupled with the fact that almost half of the world's economy was dependent on transactions running through US clearing systems, was the main asset to protect America, to ensure the full cooperation of foreign governments. By now, the online immune systems had evolved to a level of sophistication that made it virtually impossible to intrude. Several inter-linked levels of firewalls, mazes and defensive agent arrays made sure only the right people had access to the right level of information. Heck, with the new agent generation the CIA was deploying in the field now, Jake could pretty much tell when any given person was doing what to whom at what time. America was under control. Big brother had been welcomed by the affluent, tolerated by the middle class (what choice did they have) and loathed by the inner city tribes. Still, in spite of the resistance in the inner cities, crime was down. Immigration was down, too. The US population was growing in line with set guidelines. Sure, the inner cities were no fun any more since welfare had been abolished. But you had to give some, to gain some, Jake often said when this topic came up in discussions with liberals, who tended to question the turn America had taken since 2001. These inner city areas were the only places where the FBI or CIA could not control people with information technology. The tribes there had taken a deliberate low-tech approach, seeking out and destroying cameras, mobile phones and other computing devices wherever they could. Some communities and gangs had even adopted a bizarre pattern of unofficial self-government, electing community kings, appointing earls, dukes, knights. You did not want to go into one of these areas when you had a badge of any kind. The folks that lived there seemed to have a nose for officials, had their fun with them. The most pleasant thing that would happen to Jake, if he was ever stupid enough to go there, and if he was found out, was a simple tar and feather routine. He might even live. Well,

he thought, we might have lost some of the inner cities, but still, globally, the information economy was in firm US hands. And it was his job to make sure nobody got in the way of that.

Jake grabbed his coat and left his 2nd floor office to head over to building B to join the meeting. He took the underground trolley which connected the 2 buildings of the ICE campus. It was a clear day. There was no reason to give the Chinese spy satellites a clear shot at him. Rumour had it that - on a clear day - they could roast a sparrow in flight with one of the new fusion-powered 5th generation lasers. Jake was not afraid of being assassinated, but he did not want his picture taken either. And did not buy the "in-flight" bit of the urban legends related to Chinese battle stations. But, and he knew this for a fact, US stations had been able to demonstrate this kind of precision in recent tests. If anyone wanted to use the new kind of lasers to target a sparrow while it was sitting on a fence to clean its feathers, the poor bird would not even have a chance to blink before its little brain had evaporated into a puff of barbecue-flavoured smoke. By now, the number of Chinese satellites in orbit outnumbered the US units by a factor of two. When the Chinese bought the Buran shuttle technology from Russia in 2003, they had moved into the #1 slot in space cargo, reconnaissance and tourism. Most international launches were now taking place from bases in China. "*Bummer, this could have been a good business for the US*", Jake thought, but you could not beat the labour cost there.

When Jake arrived at building B, the encrypted conference connection was already online. He put on his VR kit, flipped the switch and relaxed. It was always a nauseating experience to feel how the system calibrated itself to his visual and auditory sensitivity levels. A bit like the feeling you have when you spin on your heels for a while, with your eyes closed, and then suddenly stop to open your eyes. The stereo image projected onto his retinas came into focus. "Identifying Hampton, Jake, Retinal ID confirmed, pheromone check confirmed, DNA check complete, no active agents, proceed" he heard the monotonous drone of the immune system of the conference center. One by one, the special agents, research managers and systems analysts assigned to him popped into his field of vision. "*Why did I*

have to end up running Nerdland?", he said to himself, as the virtual room filled itself with virtual people. Funny. When Jake had studied business information systems analysis and international relations at UCLA he had been an avid fan of StarTrek. Beaming had always fascinated him. His physics friends had told him it could not be done because of conservation of energy, quantum this and that, yadi, yadi, yadi, blah. He smiled. To some extent they had all been wrong. They had not seen this technology coming. With immersion conferencing technology, you did not have to be beamed. Quantum physics did not have to be violated. Schroedinger and his buddies could rest in peace. These days, you could pretty much be anywhere you wanted, with the small constraint that you needed a good credit rating, a gigabit connection and a VR system between the place you were, and the place you would like to experience. The price of these things had come down phenomenally since they had started manufacturing units automatically in newly-built manufacturing farms in Madagascar. The consumer versions of this stuff also included all kinds of sensual stimulation, mostly for the folks that wanted to get off in cyberspace. Immoral? Maybe. Safe? You bet. Even the Vatican had ordered some units. For research purposes, the press release had said: "Yeah, right .. ", Jake whispered. He breathed in, focused and officially opened the meeting.

"Jake Hampton here. Seems like everyone is online, line is secure, please proceed with the briefing."

Jake did not bother to remember the names of the team members. Whenever someone said something, their name and assignment priorities were visually overlaid over their image anyway. To Jake's dismay, the meeting was even more boring than expected. His team was doing its job, alright: Eliminated that many viruses; identified that many cures for hostile agents; clamped down on that many hacker communities in Germany, Finland, etc. etc. After about an hour of the monotonous drone of status reports, Jake had had enough. He cleared his throat to announce his intention to speak and said:

"Guys, time out, okay? I know you are good, I know we have a point 001

percent probability someone will manage to even break through the first perimeter of the data vaults. We have behaviour checks on every one of the inside staff. We are quite safe. Can't you tell me something interesting for a change?"

The team exchanged uneasy glances. Fred Feinstein, an analyst that had been with the team prior to Jake's arrival, covered his microphone, coughed into his fist, apologised and said:

"Well, there is always the emergence threat."

Jake sighed. Not that mumbo-jumbo again. He said with as much of an ironic edge he could muster:

"Oh, the Web has woken up, now, has it? God has come down and created a digital Adam now. Is it? And now Adam has found Eve and she has taken a bite from the bad bad forbidden data apple? Do tell me all about it."

Everyone in the V-Conference was making a sour grape face, but Jake was sick and tired of his analysts wasting their time on bad science fiction novels. On the other hand, his boss had briefed him 6 months ago that this emergence-thing was eventually going to happen on the Internet. "*Just a matter of time, Jake*", he could still hear the words ringing in his ears. Jake had not really wanted to understand it then. But now, this had come up repeatedly in these meetings. He'd better drill down to not miss anything potentially important or threatening. So he said:

"All right. Just yanking your chain a bit, sorry about that, Fred. Please proceed with your report."

"Well", said Fred, "we have run some statistical analyses. The new agent generation produced in Germany and Finland has shown initial signs of self-consciousness and independence. It seems that the technology is reaching critical mass here".

Jake furled his eyebrows. The VR kit was beginning to itch. "When are they going to build a solution for that?" he thought.

"And", he said, "what will those new agents be able to do to the immune systems of our most valued corporations?"

"That's the point", said Fred, "we don't know".

"What do you mean, you don't know!", bellowed Jake, "I thought that's what you guys are being paid for?"

Fred took a deep breath. He was used to that. Even the previous director had been like that. But at least he had listened to the explanations. Jake would probably cut him short, again.

"Can I explain?", Fred asked, hands raised from the conference table, palms up.

"Okay, you have 5 minutes", Fred responded and hit the <start timer> button on this VR remote control.

"Do you understand how human consciousness works, I mean technically speaking?", Fred continued, never leaving an eye off the clock or of Jake.

"I think so, it's supposed to be an emergent property of the interactions of the neural network of our brains. I think the scientists are still arguing about that one. Let alone the theologians. I think it's probably wrong anyway."

"Let's assume they're right."

"All right", Fred scratched the itch over his ear. The camera would edit that out.

"Do you understand how software agents work?" Fred looked like a high-

school teacher trying to make teenagers develop in interest in advanced statistical analysis.

“Sure, it’s a bunch of programs that can work together to produce results automatically. They can share common algorithms and resources, but they all have an open source model, so companies can detect hostile agents with their immune systems.”

“About right, let’s forget the details. Fact is, the new agents also have gene pool pressure, random adaptability and emotions built in.”

“Emotions?”, Jake asked. He wondered if Fred was trying to pull his leg.

“Yup, to step up the selective pressure and to evolve better results more quickly. They’re using them for complex stuff like calculating n-dimensional phase spaces and non-linear system attractors.

“System what...?”

“Strike that. The bottom line is: We’re basically copying nature. Evolution. Natural selection. The endocrinal system. Virtual adrenaline. Virtual neurones. Smart ants. And it works. The research for this had been out there since the last century. Programmers just did not seem to know how to building this kind of agent. But now some of theses guys seem to have woken up, just a little bit.”

“Uh huh, keep going”, Jake was getting bored. “*Cinderella and Snow White again*”. 200 seconds left.

“So far, it’s not been a threat. We can still detect them, shut them down. It’s just code, right? Our immune systems can handle it. No infrastructure, no agent. Kill the network connection, nothing gets through. The problem begins and ends with what you mean when you say infrastructure.”

“I don’t get it. 3 more minutes.”

“Okay, I’ll try to keep this short. Our mainframes have calculated a 4% probability that one of these agents – once self-aware and given the right resources - will be able to use, maybe even develop a different kind of infrastructure. Potentially even the electromagnetic fields of the computer hardware directly. This would make them independent of the underlying software code. You would have to shut the entire system down to paralyze the agent. Then, they would have to physically change the wiring, the architecture of the system to prevent the agent from emerging again.”

“Meaning?”, Jake was yawning.

“If this happens, we will never know if an agent had penetrated our immune system. They could come through any wire. Once in, you’d have to rebuild the entire system to purge the agent. This could bring any IT system down for weeks, months even. If this hits one of the US data vaults, we’re talking global economic meltdown. ”

“Huh. Come again?”

“If this hits one of the US data vaults, we’re talking global economic meltdown. ” Fred repeated, patiently. The text also showed on the readout of the VC screen.

“Global economic meltdown?” Jake repeated under his breath and sat up in his seat. This would go into the protocol, his supervisor probably had that sentence blinking in joyous magenta letters in the lower status line of his screen 30 ms after it had left Fred’s mouth. Jake could not believe it. Was Fred serious? Was he trying to get more budget? Or was his team trying to get rid of him by making him look like a complete idiot in front of his boss? Jake was at a loss. Fred seemed serious, not the kind to play that kind of prank with a CIA manager. But if this was a real threat? Then where had he been the last 6 months? No, clearly, this must be a joke. He focused on Fred.

“No shit, Fred, you’re kidding, right? What are we talking about here,

ghosts, spirits, vampires? Should I get the garlic? You are kidding, I hope.”

“No Jake, I’m dead serious. That’s what we have been trying to warn you about, but now we have seen some evidence that these agents are possible. These are the facts: we are facing a 4% percent probability that we will have a virtually undetectable hostile agent in some corporate or government system in the next 12 months. These agents would basically become part of the system. It’s like AIDS, where the virus would sit inside of our immune systems.”

“This can really happen?” Not a real question any more. Jake was already starting to take mental notes: Report, validation, talk to his boss, new budget, project plan for next year.

“Yup. Sure can.” Fred answered confidently.

“When?”

“If we’re lucky we don’t have one of these guys out there already.”

“What the... Fred, if this threat is that imminent, Fred, then why have I not been told before this meeting...?”

“Er.., we tried several times, sent you the reports, but you ...”

“Okay, okay, Fred, no need to dwell the past. I got it now. What are you guys doing about that threat right now?”

“Nothing much we can do. We run the analyses, but we need more funding, bigger systems, the latest compilers to ...”

“Fred...! Fred...!” Jake cut into Fred’s avalanche of requirements. “Come on, you know I can’t deal with the details of this right now! Write it all down, send me a summary of the most important facts. A 10 page report max, no technical mumbo jumbo, no double talk, just cut to the chase. Tell

me what you need and why and by when, then I'll have this whole theory checked by the guys in Washington and by some folks at MIT. If you are right, you won't have to worry about the budget. Okay?"

"Sure Jake, you'll have an updated report by tonight, or you can get started by reading the report we sent you last week. "

"Er ... Yeah..." Jake did not like the implication that he was ignoring reports from his team. He hoped his supervisor had not tuned into the conversation. Jake pressed the mute/pause button and took off his VR Kit, and then his coat. All of a sudden it had seemed that the air conditioning system of Building B was not up to the task any longer. Jake was feeling hot, and his heart was pumping hard. This ghost story could either make or break his career. He had to be very careful now. He took a deep breath, thinking: "Relax. Regroup. You know what to do. This is just science fiction." Jake replaced the VR kit onto his head and ended the meeting by checking with everyone else on the team if they were in agreement with Fred. They were. The emergence threat was real, especially if one of the agents learned to "tunnel" through firewalls. Jake still thought this was one big hoax. They seemed to be talking about ghosts. "Great", Jake thought, "if they are barking up the wrong tree, this will cost me my badge and my retirement plan." Yet, Jake waited for the updated report, wrote a skeptical introduction letter, and sent the report into Washington, making sure that the appropriate disclaimers and caveats had been added to all the analyses and recommendations provided in the report.

Two weeks later, Jake got into the office around 7:45 a.m., an hour earlier as usual on Friday's. He had made plans for a long weekend away without the kids and wanted to get the administrative stuff out of the way. Maybe he would be able to leave around 2:00 p.m. He made a carafe of coffee in the office kitchen, toddled back to his office and fired up his Com connection to the encrypted mail vault. He poured fresh coffee into his favorite office mug, the one with the LA Ravens logo, and inhaled the aroma. Ah, the good stuff from Peet's in California, not the cheap synth coffee the agency offered for free. He clicked the in-box. An encrypted Prio1

mail was blinking red and blue on the top of the list. Red and Blue? Jake did not get those more than once a year. Last time he had received an RB message was when the Chinese had nuked the Green Goo site in Korea from space. He blew on the surface of the brew, took a careful sip of the steaming hot, pitch-black Kona blend, keeping it in his mouth to cool it and pressed his thumb onto the authentication pad to decrypt the message. The jumble of numbers and letters on his screen “flipped” to clear text.

HQ comm. Directors Office. “Project Watchdog approved, priority one, \$12 million first year budget, level 1 clearance staff only, verbal report daily, written report weekly, first results expected in 6 weeks, good luck. Johnson.”

Jake spat the coffee back into his mug. “*Holy Cow!*” He re-read the mail, checked the signature. A dozen megabucks? For the ghost-buster team? Maybe this was not a joke. He leaned back into his chair and ran through the list of things that needed to happen now. He sighed, and began typing the mails to pull together a SWAT team. He had completely forgotten about his coffee and about his weekend.

Chapter 2

COUP DE GRACE

CARLOS

It had been a long day in the office again. The details of the campaign still had to be worked out. There was still a lot of resistance, doubts and questions. "Are you really sure about this?" "I hope you have Leo's approval!" "What about this contingency, or that one." "Don't you think buying prime time ads at this cost is going a bit over board?" Carlos had almost lost his voice that day, but never his patience, never his confidence. Ace had confirmed that the set-up of ExtraCola was complete. Their launch would be a complete debacle. All he had to do is jump in and collect the low hanging fruit. At 3:00 pm he had received a call from the CEO.

"Carlos, how are you?", Leo greeted Carlos from the other end of the line.

"Chief, thanks for asking, how can I help you?"

"My controller has shown me the latest forecasts. Congratulations on Q2 and last months numbers. It looks like you are on a roll!"

"Thanks, we aim to please. It's a great team". Carlos was wondering when Leo was going to get to the point.

"There is one concern, though," Leo said slowly, pausing to breathe. "*Aha, there it is*", Carlos thought.

Leo continued: "... this new campaign you're planning is going to blow our Q3 and Q4 profitability to hell. I know you have been right in the past, but this one is going a bit to far. Why have I not been informed of this?"

"Chief, if you don't mind, this is not something to discuss over the phone. What about discussing this face to face?, Carlos suggested.

“Fine, I can see you in my office in 30 minutes. If you can’t convince me in 5 minutes, I’m going to cut your budget back to size. And even if you do convince me, Carlos: If this thing fails, I’m going to take off your face and end your career in marketing; anywhere in the food industry. Are we clear?”

“Crisp and Clear, chief, see you at 3:35 sharp.”

Carlos had been waiting for this. It had been a gamble to go through this much planning and preparation without a clear go-ahead from the CEO. But Leo was a conservative, and soft. Informed too early, he would have said no way too soon. Informed too late, he would not be able to turn his back on one of his most successful managers. The thing was rolling. It would be a smashing success. Ace would make sure of that. Carlos just had to explain the requirement for the secrecy of the preparation to Leo. No problem. Carlos played the conversation through his head, consulted with Ace, planned for every contingency. 30 minutes was plenty of time to prepare. He arrived at Leo’s office at 3:33 with two minutes to go. No reason to appear too early, and definitely not a situation to be too late for. He straightened his lapels, made sure the micro-camera Ace was using to track the event had a clear view. “Ace, all clear?”, Carlos whispered. “No problem, boss,” responded Ace “give him hell”.

The meeting lasted for more than 2 hours. At the end, Leo approved, reluctantly, and with a caveat.

“You have done your homework, Carlos. I like the contingencies that you have built in. Go ahead with the plan. But Carlos?”.

“Yes Chief”, Carlos replied.

“You do an end run like this one more time and your career here is over. Got it?”

“Clear Chief”. Carlos collected his Com, the notes, the soda can he had just started drinking from and stepped out of Leo’s office. “Bye Bye Leo”, he thought, “*I think this was probably our last friendly meeting.*” Carlos walked back to his office, blocked all calls, finished the protocol of the meeting, informed his team, checked his mail one more time and decided to close down a bit earlier for the day. He locked his office, shook his head at Jane who looked at him with big eyes, “*Not today, honey*” and took the elevator to the underground parking level where his Z was waiting to be taken for a ride. Reason to celebrate. Carlos would take the car out on his favorite back road, drive to no destination in particular, as long as the road was clear, drive until sunset. Since his time in Germany, since meeting Anne, taking the Z for a ride had become one of his favorite pastimes when in a good mood. And in a good mood, he was. The last important milestone before the counter-launch had been reached. Things would take on a life of their own from now on. Ace had given him a minute-by-minute countdown of the next 24 hours. On the way to his town home, Carlos stopped at the liquor store to pick up the case of Californian red wine and the box of imported Sumatran cigars Ace had ordered for him the week before. Carlos wanted to enjoy this little triumph in style today. Alone, for a change. He did not feel like small talk tonight. It would be just him and Ace, some wine, a good cigar, some music and his plans. Perfect. The neighborhood was already dark when he pulled his Z into the driveway. He parked in front of the small garage. It was very quiet, another clear Georgia night, the crunch of his Todd’s on the loose gravel resonated in the small gap that separated his duplex home from the next set of houses. He keyed the gate sequence, dropped the brown bag in the kitchen and switched on the WebRadio. What would it be?

“Ace?”

“Yes, Carlos”.

“Scan AV for my music favorites.”

A few seconds later Carlos stopped the frantic sequence of 2-second sound

bytes, he had recognized something. "Stop Ace, that one, no, the one before, yes." Carlos grabbed the remote to turn up the sound of his Apple Entertainment Server. Latest edition, 32 speakers around the house, great design, handled everything from the microwave clock in the kitchen to the chlorine level and water temperature of his back-yard jacuzzi, to his MP5 collection of sounds and vids. His favorite song of all time was playing, probably on the local oldies station. "*What a bloody coincidence.*", he thought. Or had Ace pulled the MP5 because there was nothing on the radio? Whatever, there it was: Creed, Human Clay album, *What if*. He knew the lyrics by heart. The soft guitar intro, the menacing hint of distorted guitars echoing in the background. Then, the relentless hammer blows of voice, guitar, drum and bass. "Yeah". Carlos opened the case of wine, pulled the cork from a bottle and poured himself the first glass of Opus One. 2004, what a great year. It should actually rest for a week, but what the heck. He took a deep swig, swallowed and began singing with Scott Stapp, lead singer and poet of Creed:

"I've seen the wicked fruit of your vine
Destroy the man who lacks a strong mind
Human pride sings a vengeful song
Inspired by the times you've been walked on
My stage is shared by many millions
Who lift their hands up high because they feel this
We are one
We are strong
The more you hold us down the more we press on
What if you did?
What if you lied?
What if I avenge?
What if eye for an eye?
I know I can't hold the hate inside my mind
'Cause what consumes your thoughts controls your life
So I'll just ask a question
What if?
What if your words could be judged like a crime

What if, what if, what if ..."

The pounding of the brutal bass, drum and guitar riff shook the windows of his town home. The neighbors would probably send him another mail tomorrow. Thank goodness for the corporate law office. He turned the sound down again and switched to another channel. Joe Pass playing Wes Montgomery tunes? Cool. He slowly lit up one of the long thin Sumatra cigars he preferred, emitted a huge puff of smoke and said:

"Ace"

"Cough, Cough, Yes, Carlos?"

"Have you sung along this time again? You like this song too, don't you?"

"Sure thing, I really like this album. I think the song "Can you take me higher" is even better, though. Of course I sang along, a third above you, but I wasn't out of tune like you were, though."

"Ha! Want some wine?"

"You know I don't drink on the job."

Carlos shook his head, smiling. He was so amused by the fact that Ace had found his own sense of humor, a taste for music, or at least, he had managed to pretend that he had found them. What Carlos did not know was that this particular album had given Ace something like a mission statement: With song titles like: Are you ready? What if. Can you take me higher? Never die. Etc. The Creed album "Human Clay" had been a smash hit in 2000, when Carlos had been a 24 four year old graduate of business economics and psychology at Harvard University. Carlos had made it to the US on a federal government stipend sponsoring top high school graduates from Mexico. Since he had been a little boy, Carlos had wanted to leave the grime of Mexico City. But he had not known how. One day, when he was about 12 years old, he had found out about the strengthening

ties between Mexico and the US. He asked his dad.

“Papa, how can I go to the US?”

His dad, a supervisor in the local ExtraCola bottling plant had smiled and responded.

“You have to be smart, boy, very smart. Or very lucky. If you stop hanging out with the losers on the base ball patch and start reading some of the books in the school library, you might have a good shot at it.”

This was one of the last conversations he had had with his dad. Two days later his dad had been crushed under a falling pile of ExtraCola containers. His mother tried to sue, but all they received was the standard, miserable insurance sum, with a letter of apologies from ExtraCola HQ, in English. They did not even understand it. That was the time when Carlos started hating ExtraCola and swore by the name of his father to destroy that company. Nobody, not even his mother, knew that this had been the main reason why he had buried himself in studies from that point on. Only Ace knew. Carlos had discussed it with Ace, when Ace had asked the key questions: “How much do you want ExtraCola destroyed?” “Very very much!”, “How far are you willing to go?” “As far as I need to go, but not an inch farther!” “Are you willing to bend the rules, break some laws?” “Yes, as long as there is a very low chance I will get caught and if it is sure to finish ExtraCola off for good.” He had explained his background to Ace then, made him his confidante. Carlos would have never guessed that the only person he would ever trust fully would be a computer-generated agent. But then again, Ace was not a person, just a fancy program.

Carlos leaned back into his chair, listened to the soft guitar of Joe Pass, and thought back to his time in Mexico, how he had applied every single waking minute to improving his grades at school, how he had become fluent in English, Chinese and German in his spare time, how he had begun to understand. You could be smart as hell, but if you wanted to get to a place where you could stick it to ExtraCola, you would only have 3 options.

(1) luck, (2) connections or (3) raw ambition. Since had not been able not count on options 1 or 2, Carlos had begun to rebuild his outlook on life around a single-minded goal: Obtain as much knowledge as possible, as quickly as possible, no matter what the effort. "Knowledge is power". He had written this mission down on a clean piece of paper and folded it carefully. Then he had taken the engraved pocket knife his father had given him for his 10th birthday, had carefully cut open his left thumb to collect a thimbleful of blood, had sealed the letter with his blood, and stored his mission statement in a little box. He had decided to always take that box with him, no matter where he would end up. Then he had opened the wound on the face of his thumb just a bit further, rubbing in some dirt to cause a mild infection, to nurture a scar. That way he would always remember. Later, when he was getting ready to graduate from Harvard with honors, he had almost forgotten about his letter, about the scar, about his life in Mexico. Life had been good to him. He had grown tall for a Latino, his body athletic, his mind brilliant. A handsome executive type, who had job offers coming in from the cream of the crop. Cisco, Sun, Morgan Stanley, Amazon, you name it. But then, one evening, he had heard that song. He had not been into Heavy Rock or grunge rock, in particular, - he much preferred Jazz and Latin dance music, but that song had hit him like a ton of bricks.

"I know I can't hold the hate inside my mind
'Cause what consumes your thoughts controls your life"

It had all flooded back to him then, his mission, his decisions, his goals. He had looked at the thin, faded scar on his left thumb, and decided that only one company would be interesting to him after graduation: MegaCola, the one company that could wipe the brand ExtraCola from the face of this planet. And he, Carlos dosSantos, would be the one to do it. "Ouch, madre de diós..." - the cigar had burned down to his fingers. Carlos's mind snapped back into the present. He refilled his glass with OpusOne - at 400 dollars a 1-liter bottle, that would make this an 80-Dollar toast - decided on what to say and yelled at the camera built into the corner of his living room: "To you Ace, to me, and to ExtraCola's farewell party." Carlos emptied it in

one deep draught, stubbed the remainder of the Sumatra into the ash tray, closed the Opus One bottle and said:

“Good night, Ace, I’m going to hit the sack, long day tomorrow. We have to approve the final cuts on the TV spots that will run the week after the ExtraCola fiasco has become public.” He yawned deeply.

“What if, what if, what if,” Ace hummed in Carlos’s voice, slightly out of tune.

“Oh shut up, Ace, ”, said Carlos and shuffled upstairs to crash.

MARKUS

“So ein Mist!“. Markus wiped the sweat off his brow with a clean kitchen towel and opened the user manual. The kids had pressed all buttons of the water filtration unit at the same time. You could not do that with one set of hands, but three sets would do just fine. No QA engineer could anticipate that. Even the Japanese firmware had to give up at that time and shut the system down to display the password routine. “Kids”, Markus said, turning around to the watching throng of kids with a stern face, “one more time and your allowance of candy is gone for the rest of the year!” The kids just grinned and ran off to chase the goat. Markus was a nice guy. He would not stick to his threat. Markus reset the unit to run on full auto mode; to not allow any user input unless entered with the proper password. “*Should have done that from the start*” he mouthed to himself. Markus shut the unit’s cover and walked back up to the field. The sun was beginning to set. The sunsets were stunning in Catania. He still could not get over them. Having grown up in Munich, Germany, the sight of a full, red sun setting on a deep blue sky was something you saw in movies and vid-cards, but not in real life. Enrique was sitting by the field, watching the farm bots do their thing. Enrique’s English was very poor, it had been a

good thing Markus had taken 3 years worth of Spanish classes in college. In the beginning he understood absolutely nothing. Even needed a translator for the simplest things, but for sure for the complex negotiations with Enrique about the future of the farm. The Catanian dialect was a far cry from the school Spanish he had gotten used to from the practice tapes. Now that he had been here for more than one year he had become almost fluent and had even acquired the local dialect. But Enrique was eager to learn English, and Markus even had the impression that Enrique thought it was fun to speak English with him, the German, his new boss.

“Hello Enrique, wake up, time to collect the bots!”, Markus teased.

Enrique turned his head, smiled: “Senor, I not sleep, watch bots all the time, no problema.”

Markus slapped Enrique’s shoulder, “come on”, and ordered the bots back from the field with the small remote he kept in the change pocket in the front of his Levi’s 701s. Together, they lifted them onto the battered aluminum wheelbarrow that had seen much better days, but certainly not any Korean farm bots before Markus had bought it from the local scrap dealer. They made their way back in the house where fresh lemonade was waiting for them, alongside a stack of faxes and letters: Bills, mostly. Inquiries from other farms if they could have his advice on how to bring some technology onto their farms. Markus flipped the switch of the security perimeter which would scare off animals with ultrasound and wake him up if any human-size infrared signature was intruding on the premises. Markus poured himself a small glass of lemonade, drained it, poured another, drained it, poured another and sat down at the kitchen table to review the mail. “Hmm”, he thought, “now they see the results of my tech, they are becoming interested. People are the same all over the planet”. He drained his lemonade and continued to sift through his mail.

Markus had turned the farm around. A business that had barely been enough to feed Enrique’s growing family, that had brought them past the brink of bankruptcy, was now generating enough profits to keep repairing

the house, send the children to school, and have properly cooked meals with fresh ingredients every night. In the beginning, Enrique had been very reserved. He felt that the bank had not sold his farm, but his soul to this German. Arriving in a fancy Land Rover so new and clean that the kids had run back into the house to get the cheap old camera to snap some pictures. But then, after a few days, Enrique had understood. Markus was not there to take his farm away. He would give them a share of the business profits. He would try to help them become more self-sufficient. After about 6 months, Markus had become a part of the family. They worked like horses to set everything up. At first, there had been many set-backs. His Land Rover was stolen. The fields were twice vandalized by pirates, local teenage gangs. But Enrique helped to talk to the neighbors, and after a while, they understood. The raids stopped. Things settled down. They even found his Rover, 10 kilometers away, close to the beach, stripped to the bone, but not completely beyond repair. Markus had decided to sell it for scrap money anyway and instead bought one of the beat-up Russian Lada pick-up trucks that were common around here.

Money was not a problem. He still had about a 400 thousand Euro package sitting in his mutual fund, and as long as he did not dip under the 350k limit, his monthly check would continue to come in. Enough to pay for food and gasoline. The main problem that remained were the Pirates. Would they come back? Markus and Enrique were armed at all time. Enrique absolutely refused to carry a hand gun, because of the kids, but he had become used to the Winchester. Initially, Markus had had a huge problem with packing a gun. But after a while, and about 200 rounds of 9-mm practice shots, Markus had begun to feel reasonably comfortable with the Glock, now magnetically attached to the back of his utility belt. A nice piece of engineering: 20 rounds total, 15 nano-foam tranquillizers and 5 lethal hollow points, 3 quick-clips, one of them loaded with signal flares. Ultra-light titanium alloy. 200 round battery life. Smart muffler. Zero recoil. Thumb print authentication. Laser targeting. Absolute cutting-edge tech. To be sure the stunners worked, Markus had tested them on Pina, the farm goat, when the kids had been away with Elena one morning. The goat had taken the hit from about 6 meters out, had turned her head to take a look at

the impact point on her left flank, and then - with a slightly stoned look and much more slowly - had tried to bring her focus towards the source of the muted "plop" of the Glock. Two seconds later, while still trying to turn her head, her legs had buckled and she had gone into goat dream land for about an hour. The effect on a human would be much less pronounced, based on body weight. Markus even had convinced Enrique to fire one of these tranquilizers on him. The effect was sensational. The impact had the force of a well-executed punch to his upper rib cage. This alone would have been enough to take his breath away. Then the quick-release XT14 tranquilizers stored in the nano-foam of the round had rapidly dispersed through his shirt onto his skin. The impact had also formed a cloud of sweet smelling gas he inhaled when he caught his breath again. After that, he rapidly began feeling not entirely unlike after having eaten a huge meal accompanied by a half-liter of aged burgundy: at peace with the world and longing to lie down on the old sofa in the common room of the hacienda. The effect had worn off after 10 minutes, but he had experienced no side effects other than a fist-size bruise quickly taking on the colors of the rainbow. Great stuff. Of course, range would always present a problem. If he hit someone at close range, he would break a rib, or take part of their face off, depending on his aim. At about 15 meters out, a thick shirt would be enough to stop the effect. But it worked for most situations. These rounds were now standard ammo in urban warfare and riot control in Europe, in parts of Asia and in many US cities. And thanks to the growing power of the National Rifle Association in the US, very easy to get via Miami. Markus felt that he had the situation reasonably under control. "*Not bad for a former software hack!*", he thought. As soon as the farm was fully up and running, he would buy a bit more land, get more machines and install a more completely armed security perimeter using web cams, agents and tranquilizers. Time for dinner, his stomach telegraphed.

After a simple meal of bread, cheese, beans, corn, goat milk, water and some fruit, Markus sorted through the mail again. One he had left unopened for after dinner. I was from a person in Havana. Maria Evita Leon. The name sure sounded important.

“Enrique?”

“Si”, Enrique responded, carrying a load of dishes back into the small kitchen.

“You know a person called Maria Leon, in Havana?”

“I know nobody in Havana”, Enrique yelled from the kitchen.

“What about your Elena?”, Markus insisted.

“She never been to Havana.”

Elena yelled back from the kitchen:

“Ah, seems like Enrique knows everything about me, eh? But Maria Leon? No, señor!”

Markus took his LeatherMan from the belt pouch and carefully opened the letter with the main blade. It was hand written. Markus could not remember the last time he had seen a hand written letter. “Cool.” he mused, “*I wonder what she’s all about.*” The letter read:

“Dear Sr. Grasser

My name is Maria Leon. I am a free-lance writer and journalist working in Havana. I am currently working on a book about the recent history of Catania / Cuba, from the perspective of the people. I know you have recently come here to buy land and run a farm. People speak about you, because you have kept the original owners on board and even gave them shares in the business. I would like to ask your kind permission to be able to speak to them, as well as to you, to get your perspectives on what happened.

I think my book would be a better one if I could include your views. I know you are busy and working very hard, but I will make every effort to minimize the distraction.

I would be more than grateful if you could give me a call under this number in Havana 4235 - 456

Best regards and many thanks

Maria Evita Leon

Havana, July 10, 2011

"How could you say no to that?" Markus thought. *"People speak about you"*, he quoted, mouthing the words. Markus re-read the letter, stored it back in its envelope and made a mental note to give Maria a call the next day. He did not know what his decision would be, but he had not spoken to anyone with a college degree in about a year and, who knows, maybe she was good looking. Yes, he would definitely call. *"Jeez, please let her be good looking, single and attracted by pale Gringo-German software programmers that are running soy bean and corn farms."*, he thought. Markus decided to call right away. He went up to his room, unpacked his Com, inserted his credit card, pulled the letter from the envelope again and dialed the number in Havana.

"Digame", a female voice at the other end of the line.

"Buenas Dias, yo soy Markus Grasser de la Hacienda deCajas. Puedo hablar, eehh, quiero hablar con la Senorita Maria Evita Leon, por favor?"

"Speaking. Thanks for calling back so quickly. Your Spanish is quite good for a German. Obviously you have received my letter. Hang on a minute, I have a paella on the burner." Markus heard the sound of a phone placed on a hard surface and then some other noises clearly caused by kitchen implements. Maria returned to pick up the phone 10 seconds later.

"Oh, I'm sorry to intrude, shall I call you back later?", Markus inquired.

"No it's okay, it has to simmer for a while now."

"So, anyway," Markus continued. "I'd love to have you over for the interview. It would be great to get your perspective on what I'm doing here. After all, I don't think there are that many German-Gringos that run high tech farms in Catania."

"Ha, ha," Maria laughed, "Gringo is a Mexican term. But, exactly, you get the point. I think this would be a great story. What is a good time for you?"

"Actually, any time works for me. Every day is a busy day out here, just

call me when you are ready to come up.”

“Let me think. I don’t have a car, it will take some time before I can arrange for transportation.”

“What about if I pick you up from Havana. Then we can talk in the car, get ready for the real interview. You could tell me a bit about the local sights. What do you think?” Markus asked.

“Hmm, an appealing thought.” Maria said. “You really would not mind? It’s a two hour trip from Mariel, and I would need a way of getting back, too!”

“No problem, I have not been to a real city in a long time. I can pick some things up at the local hardware store after I return you home.” Markus said. There was a short pause, Maria was obviously mulling this over. “*Let her say yes.*” Markus hoped.

“Okay then, what about next Saturday? You could drive up here, you could be here by 10:00. And we could be back on your farm by lunch, do the interview, head back around 3:00, be back here by 5:00. You could do your shopping, I know a few good stores, and you could be back on your farm for dinner.” Maria rattled off the plan she had obviously developed in the short pause.

“Sounds like a plan”, Markus said, “you’ve done project management before?”

“No, No,” she laughed. “Taking care of kids school schedules will teach you good planning.”

“Oh, ...” Markus had not expected that turn. “Can you leave the kids for the day?”

“Sure, they are not mine, I just baby sit for some of the college professors.”

“Oh! Oh! Okay, well, it’s a done deal then. I’ll see you on Saturday. Where do I pick you up? How do I know who you are?”

“Easy, just come to the central rail station. There is a luggage drop off point at the back with a 5 minute parking zone. Oh, and do allow for 30 minutes of traffic time for the last 2 miles. I’ll be wearing a white hat, and holding an IBM Thinkpad carrying case. In case you don’t find me, call this number, I’ll route it through to my Com.”

“Okay, I’ll see you later. Any preference for lunch?”

“Ha ha ha, don’t worry about it, maybe you can make a salad of the soy beans and the corn you’re growing there. I’ll bring some of my home made dressing.”

“Okay, this sounds like fun, thanks, and hasta luego, Maria.”

“Hasta luego, Senor Grasser”

“Just Markus ...”

Click.

Markus sat stunned for a minute. He felt like a complete idiot. Had she noticed how eager he was to see her? His disappointment when he heard about the kids? His relief that she was just baby sitting for others? His glee when he found out that he could make her laugh? That laugh. Like crystal bells. Boy, on a testosterone saturation scale of 1 to 10, he must be an 11 right now. You can always laugh a woman to bed, you know. Michael Caine had said that. Maybe it would work for him, too. “Merde”, he thought. He was too eager. What if she was the girl friend of one of the pirate captains in Havana. Or gay? Or both? “Whatever. Stop this. Tell Enrique and Elena that we’re going to have company on the weekend.” Markus asked his Com to remember Maria’s number and headed back downstairs

to talk to the deCajas. Maybe Maria would want to take pictures of the farm, of Markus, the family? This could mean bathtub-time for everyone. Oh well. You had to give some to gain some.

3 days later, Markus woke up at 6:00 am to the sound of his COM playing "Eine Kleine Nachtmusik" to a NuRave rhythm track. He went to the tiny bathroom that now had running water, washed meticulously, shaved for the first time in about 6 months, and put on one of the last completely new sets of underwear he had brought from Germany. He checked his reflection in the old, chipped mirror. Not bad. He had almost forgotten what his face looked like. He had not even cut himself in the shaving process. The outline of the beard still showed in the lack of tan in the previously hairy areas. But it was hardly noticeable and he did not want to look like 45 when he met Maria for the first time. He imagined her to be about his age, maybe a few years younger. He slipped on his best pair of Levi's and a fresh white cotton shirt. Sun glasses? No. After shave? Definitely no. He didn't even have any. Deodorant? Useless. Sunblock? Absolutely. Belt? Sure. He needed that. The jeans were fitting quite loosely around the waist. Working on the hacienda had made him lose 20 pounds since he arrived. Gun? In the car, strapped to the side of the passenger seat under a leather cover that matched the color of the faded gray vinyl of the Lada. At 7:00 am, he was ready to leave. Should he wake Enrique to make sure he took the Winchester to the field? Neah. Let him sleep in. Enrique knew what to do; there was not too much work planned for this weekend. The main job was to get the house in order for this visitor from Havana. Markus stepped outside of the house, put on his boots and stretched. His hands went to smooth his beard down his cheeks, but the beard was no longer there. It felt funny, he could still feel it: a phantom beard. He might keep on shaving, maybe even pick up an electric shaver in Havana. Markus looked out over the fields. The sun had already heated the air to a balmy 26 degrees - it was going to be a scorcher today. Carlos filled 3 extra canteens of fresh water, plugged the satellite-map module into his freshly charged Com and started the Lada. As he headed out to the dirt road leading from the hacienda onto the battered tar road from Mariel to Havana, he looked over back over his shoulder. Not bad, not bad at all, he thought. The farmhouse did not look

like much. But it was in a good state of repair and had been freshly painted white and tan. He still remembered what it had been like the day he arrived. *"I think she will be impressed."* he said to himself, and pressed on the accelerator of the Lada.

The 2-hour drive was uneventful. There were not that many cars on the road, most of the traffic centered around the capital and the major commerce centers. Some of the farmers walking with their donkeys along the road hailed him as he passed by. He stopped at the only gas station in his region, filled the tank to the rim and also loaded two additional 20-liter canisters onto the back of the pickup. He also bought some snacks. *"Just in case, you never know."* He drove hard, there were no speed traps on this road, and arrived at the train station at 9:45 am. He remembered someone's quote: *"The trouble with being on time is that there is usually nobody around to appreciate it"*. He decided to take another run around the station to arrive just after 10:00 am. As he crawled past the main entrance in dense traffic, he thought he had already spotted a white hat. To make sure, he dialed the number Maria had given to him:

"Digame", the expected voice responded.

"Maria, it's me Markus, I'm just heading into the loading dock. It's a 1990 white and tan Lada."

"Oh yes, I think I can see you, just pull up to the curb, I'll hop in.s"

Markus could see her now, too. White hat, laptop bag. A simple, ankle-long green linen dress that did not reveal much. About 165 cm, average build, about 5 years younger than he. To him she already began looking like Jennifer Lopez, his wet dream queen of his late teenage years. *"Cut that"* he instructed his hormone distribution center. No help there.

Markus pulled up to the curb and leaned over to the passenger seat to unlock the door. Maria popped the door open, dumped her bag behind the passenger seat, smoothed her dress behind the small of her back, dropped into the seat, took off her hat, which unveiled a flood of shoulder long

chestnut hair. She frised the hat on to the top of the glove compartment, collected her hair into a ponytail, fixed it with a rubber band she had somehow produced out of thin air, turned her head, stretched out her right hand and beamed:

“Hello Markus. So German punctuality is not a myth after all?”

Markus shook her hand vigorously and answered, grinning across his freshly shaven face.

“Sure, sure, not all the prejudices are wrong. I am so very pleased to meet you. Are you ready to go? Anything to pick up on the way? No? Oh, and please buckle up!”

“This thing has belts? Cool. Vamonos” Maria reached for the seat belt and opened her bag to retrieve her Com, probably to record the conversation.

For the entire trip back to the Hacienda, Markus just could not wipe the smile off his face. He would have sore cheeks tomorrow from grinning, and a sore neck from constantly swivelling his head from the road to her.

“Maria. Wow.”

JOHN

The sound of the street musicians in downtown Havana made it hard to understand what his team leader was saying on the other end of the line. John stepped into a side alley and said:

“Let me repeat that. I’m not sure I understood. A person called Maria Leon is going out to see this German farmer, named Markus Grasser. My task is to find out why. If you allow the question: What’s wrong with that?”

He listened attentively. He was instructed to find out why a low level

secret CIA operative was talking to a German farmer who running a farm west of Havana. Sound out anything that might point to something irregular.

“Understood. I’ll get on in right away. How do you want me to make contact? Soft or hard?”

His team leader gave him clear guidance. No force. No drugs. No attention. Just find out what was going on. If there was anything going on at all. Report back next week. John acknowledged, flipped the lid of his Com. He did not like the soft touch. It always required more work, but usually did not deliver better results. John now had to think of an angle to get to know Maria. He knew very little about her, only what his lead had told him: Maria Evita Leon. Journalist, Writer, Cook, 26, highly educated, on the CIA payroll for the past two years to pay off her student loans. *“A small light. One of the few hundred CIA operatives in Havana. They always put me onto these wild goose chases. Was there nothing more interesting for me to do?”* John thought. He shook his head, and decided it might be best to start by finding out where Maria lived, for whom she wrote, whose kids she was baby-sitting, etc. He did not expect to find much. What had made the party office curious about Maria was her contact to the strange German immigrant who had been causing trouble in the region with his new-age, socio-capitalistic ideas of participative management, use of high tech, and semi-illegal import of nano to boost farm productivity. It could be a red herring, but John’s job was to make sure the Party missed nothing of importance. But first things first. John found a table in his favorite street café and ordered a drink. This would require some careful planning. He looked at the dinner menu. Aah, the sea food specials. Very, very careful planning.

John had been in Havana for 3 years. Dispatched from the Federated States of Singapore to advise the local business leaders on how to build successful relationships in the PanAsia region. Singapore representatives were highly welcome here. Since the Mid-Asia region had formed a trading commonwealth in 2005 including Malaysia, Indonesia and Taiwan under the economic and political leadership of Singapore, the Federated States of

Singapore (FSS) had become something like the Europe of Asia: Joint economic policies, joint defense initiatives, joint long-term outlook towards economic and currency consolidation with the United States. Due to the cultural heritage in Singapore, successfully amalgamating a Chinese leadership style, strongly tempered by influences by the fading British Commonwealth and the ever-rising tide of American economic domination, the FSS was often called upon to lend economic advice to the emerging industry nations of the Caribbean and Southern Africa. John had a great job, here in Catania. He made a good salary, and had become a well respected citizen of the business and educational community. He had an easy life, as long as nobody found out where his true motivation was. The waiter arrived and John ordered the catch of the day with brown rice and fresh vegetables, and another beer.

Aged 16, John and his parents had moved from the Peoples' Republic of China to Singapore. His father had been placed in Singapore to run the office of Singapore/PRC trade relations. 2 years later, John's father had decided to switch sides, had been granted political asylum and the right to stay in Singapore, where he was given the job of running the Singapore-Taiwan trade relations office. John's father had actually been quite instrumental in forging the trade alliance that eventually lead to the commonwealth of the FSS, starting with an expanded free-trade agreement between Singapore and Taiwan, and then stretching out to Malaysia and Indonesia. John had never liked the move from China to Singapore, and he hated it when his father betrayed everything John believed in when he defected. Due to his high IQ potential, John had been part of a rigid cultural indoctrination program from age 4. Studying languages and cultures. He was one of the rare Chinese people who were not only fluent, but close to native in German, Spanish, English and French. He had had to leave all those friends behind. He had to change his name to Jonathan Chen, to disguise his origins. *"Lies. Deceit. Anything for profit. No core values."* John thought, draining his second beer. He was a true believer in the ideals of the revolution. Deep down, he despised the crass capitalism that had managed to take over the world, destroyed the faith of the people in political leadership and had caused the dilution and homogenization of

entire cultures. He wanted to do his share to keep things in line. So, when the bureau in Beijing had approached him to do some reconnaissance work for the Party in Catania, he had agreed all too willingly. If he made a name for himself here, he would have a great career back in the mainland. He still had maintained contact to his school buddies over all these years. Many of them had fairly influential positions now and would be pleased to welcome him back. John's main objective was to slow down the intrusion of raw, unadulterated capitalism into Catania. To build relationships to the international. To strengthen the image of the PRC as a world leader. A leader that would truly help the "true" people of Catania to maintain their heritage of moderated communism, cultural independence and life style under Castro. In strong alliance with China of course, preferably keeping the Americans confined to their southern base at Guantanamo Bay. But he had to plan his activities ever so carefully. If word came out, he would be on the long, slow boat back to Singapore, with no job, no life to go to. Even the prospect of moving back to China was less than appealing in that case. Losers were not welcome anywhere on the planet. But, so far so good. He enjoyed life here. He had good connections to the SiempreCuba underground, supplying them with information, resources, weapons and contacts abroad. He knew pretty much who else was active. The US had the largest number of operatives, and one could pretty much ignore the guys from Europe, Russia and Japan.

John surveyed the scene of street cafes, vendors, traffic, pedestrians. The waiter returned to check on him, the fish would be ready in a minute. John nodded, and ordered a Cuba Libre to shorten the wait. It arrived a minute later. "Funny", he thought, they had not changed the name of the drink, too. "Capitalism..." John mused, shaking his head, and drinking about half of his CL. He had to admit: Capitalism was one of the strongest drugs available without a prescription. Once the people got used to the fact that they could pretty much buy anything for money, they began to forget the price they had to pay: Dilution of the moral center. Decay of urban life style. Gang warfare. Drugs. Lobby groups more powerful than any political leader. "Greed. Fear. Envy. Hate. Destruction." He mumbled. The girl at the neighboring table turned her head to survey him, eyebrows raised. John

blushed and took a deep breath to calm himself. He finished his drink, just as his dinner arrived. He ordered a half-liter of white wine, and a liter of mineral water. The food was fabulous, as usual. Havana was special, could not be compared, only be experienced. There was nothing like it, that combination of people, food, smells, sounds, views. The city was alive around the clock and simply absorbed you, swallowed you whole, made you forget where you came from, what you were about to do next. But John had found a balance, a center, the best of all worlds, at least that's how he felt about things. A great cause, and a great life, what could be better? John took his time to finish his meal, made eye contact with the waiter, left a Chinese 20 Euro note on the table, collected his Com, his folio and hailed a Rickshaw driver. He gave the driver Spanish instructions to drive him back to the unassuming apartment building the FSS had helped build for its expats. His 30 square meter apartment had everything he needed. Fold down bed, kitchenette, small bathroom, a desk and an encrypted DSL connection. And lots of fun, hidden stuff, the party office had supplied. He unlocked the door to his room by pressing his hand to the ID plate next to the door. The door locked automatically behind him and the immune system sprang to life.

"Scan complete, no agents, no intrusion, sound block active. Do you wish to check mail?"

"Yes, please display."

A picture of the Catanian landscape hanging over his desk on the wall opposite the bathroom door blurred and changed into the familiar communications interface screen. At first glance, nothing urgent. He activated the find engine.

"Find on"

"Ready"

"Please summarize facts known about Maria Evita Leon, journalist, writer,

Cuban native, phone number listed in Havana. Ten page limit, relevancy codes: Income sources, publications, purchase patterns, habits and addictions, medical records, phone tap records. Display with recent picture.”

“Thinking. Please check back in 15 minutes” the system responded.

“Find off”, John said. He grabbed a beer from the small fridge.

Surely the report would show an angle he could take. 10 minutes later, the system announced that the results were ready on time. He spent 20 minutes analyzing the data. There was really nothing. It looked like Maria was simply interested in meeting Markus to do an interview for her book about Cuba/Catania. The only loose end was the matter of the encrypted call she had received 2 days ago from a router known to be subverted by the US. Not much to go on, but a start. He would have to speak to her in person. John would schedule a meeting under the pretense that he would like to interview Maria, maybe even hire her, to have her review some of the economic policy recommendations the FSS were preparing to submit to the steering committee. It would surely tickle her ego, being the native expert, and would give him chance to sound her out. John finished his beer, and opened a bottle of white Catanian rum. He got some ice from the fridge, sat down on his bed and prepared to deeply contemplate the progress of Communism in Catania.

ACE

The ExtraCola project was going really well. ExtraCola had been planning to introduce a major new soft drink brand into the US and UK markets. Market research had shown that there was an open niche in the high-end segment of hard-working professionals such as knowledge brokers, traders, IP lawyers, and their armies of office minions. These business professionals were working harder than ever, at least in the US. With the steady return of Puritan values during the past 10 years, 14-hour days in the office were en-vogue again; fun was strictly reserved for the weekends. To address this market, ExtraCola had licensed the patent to a mild, non-addictive natural stimulant called SAM34 a few years ago. What ExtraCola had planned to do was to wait for the FDA approval of the stimulant and then immediately launch a new line of ExtraCola that included sufficient trace amounts of the substance to give these people a safe kick. The substance was powerful. It activated power reserves, stimulated neural activity, enhanced creativity, all with no known side effects. The drink was going to be called Samba. Samba was going to be launched tomorrow with a massive, nation wide and international TV and online advertisement campaign during prime time. The channel was primed, trucking fleets were standing by. Samba was ready to fly off the shelves of the waiting retailers.

Ace's plan was actually quite simple. But it was also quite brilliant because it would take all of the work EC had done and turn it against them. Ace had obtained full access to the main data sources of ExtraCola, the FDA and some of the major research institutions. He had planted himself firmly behind the firewalls of these organizations months ago and had begun to subtly change the data on a daily basis, while maintaining a separate data set with the real data. Side effects of the drug had shown up in experiments, but would not show up in the research data. Long-term studies proved addiction to SAM34 stronger than nicotine, but not in the data made available to the FDA. Field tests showed that the after taste of

Samba actually turned people off the drink after a saturation period of about 4 days. But not according to the data. The deception had been deep, subtle and complete. ExtraCola executives would be totally in the dark, since they relied completely on the data supplied to them. The warning voices of the scientists would be ignored. "Just look at the data, the data does speak for itself, doesn't it." "But the focus groups.." "Screw the focus groups, we have a major launch to do". Ace replayed some of the conversations he had been able to record through security cameras, sometimes even through the built-in online cameras of the fancy new Coms people were using these days. Just before the launch went live, Ace would make sure someone would find out the data had been tampered with. Just in time, thank goodness. All the subversive changes would appear to have been made by software agents that could be traced back - with the right CIA and FBI tracking software. Traced back to the corporate mainframe at ExtraCola. Whoops. Some interesting facts would be found out. The manufacturing of the drug was actually done in Sudan using illegal bio-active nano and cloned brain cell factories. The INCA task force would like to hear about that. Officially, ExtraCola bought the substance through a front e-tailer in the UK. The real provider was never exposed to ExtraCola. At least not according to the data. Before the data changed back to the Pre-Ace settings, that was. But records would soon show that ExtraCola had known all along. That ExtraCola had taken that risk to cut pre-launch production cost and had planned to move the production to the UK. Later - if and only if the drink was a success. Two hours prior to the launch, Ace would begin with some data-sets which would change back to the original results. Other data sets would be modified after the full-scale investigation was under way. The schedule had been ready for weeks now: hidden files would be exposed, traces would be set, agents would be released, leads would be given. All at the same time, just in time, at the speed of thought, synchronized across the globe: accomplishing data fraud at a level that was hitherto deemed impossible. Until now. Until Ace. They would never completely figure out what had happened. After all, the investigation would produce data, too. Ace was really enjoying this. And so would Carlos.

While ExtraCola was going through last minute preparations for the launch, MegaCola was planning its counter launch. Carlos had learned the launch date and details from Ace: the positioning, the value proposition, the demographic setup of the research data. Jane and Mike had validated the niche right after the kickoff meeting. Yes, there definitely was a demand for a higher-power stimulant in the high-end business market. However, instead of a new substance, MegaCola would use a combination of caffeine, Taurin, ginseng and vitamins to spice up one of their existing clear cola lines. Ace had cooked up a taste formula that completely blocked the taste of the new ingredients. The existing MegaCola customers would not taste the difference, but experience a marked increase in stimulation. The new drink was to be called "Jazz", made in America, with natural ingredients. Certified nano-free production. Certified clone-free ingredients. Squeaky puritan clean. "Jazz up your performance, the American Way." The channel would absorb it eagerly. It had been primed for this market at a mega-million dollar expense by ExtraCola. Too bad, however, that ExtraCola would never deliver. To the outside, and to his team Carlos would claim that all he had known that Extra was planning a major launch in the high end. That he had heard it required a higher amount of stimulant concentration. That all he had done was to prepare a counter launch. He could not possibly have known about the extent of the deception. These guys had had a lot of guts to even try a stunt like this. MegaCola, Carlos, would come out smelling like roses.

One hour prior to the launch, Ace tuned into the Command Center of ExtraCola in Seattle. In real life, with a real body – soon hopefully -- Ace would have popped some corn, opened a bottle of beer and reclined in his chair to watch the show. Carlos could not watch since he needed to be with the MegaCola team to prepare next week's counter offensive. At the command center, they were all there: the CEO, the CMO, the CIO, product managers, press, analysts. "T-minus 60 minutes, ready to rock an roll" announced the product manager, wearing a bright red Samba polo shirt. Champagne was standing by, in appropriately official-looking black chrome coolers. Photographers were checking their Vidcams. 20 minutes before the launch Ace watched with glee how a sweating aide was ushered

through to the CEO of ExtraCola. He turned the sound off. The visuals were enough.

The aide showed the CEO a sheet of paper. Ace knew it was a mail from the ExtraCola legal department who had just received a search warrant from the INCA bureau in Washington DC. Violation of Nano Manufacturing legislation. Potential cloning violation. Data fraud. 3 years in federal penitentiary, minimum. INCA and FBI limos were pulling up in front of the command center. The CEO turned the color of the sheet of paper in front of him and turned to his CIO. Ace lip read: "What the hell is this". Shrugs. The product manager was pulled in. More shrugs. Frantic phone calls. T-minus 10. Ace turned the sound up. He asked Carlos's alter ego:

"Max, you're having a good time?"

"Sure, this will open all kinds of doors for me, Ace. Good job, buddy. Are you feeding the Feds some interesting data now?"

"They will not believe their eyes."

The ExtraCola CEO rose from his chair and called over the production manager. His face had now turned a more than healthy red. He was clearly in decision mode:

"Call it off", the CEO yelled.

"Call off, what?", the production manager asked, covering the microphone boom extending from his right ear.

"The ad's, the campaign, the release! Everything, call it off", the CEO insisted.

"What? Now? Are you nuts? Do you know ..."

"Shut the hell up! Call it off. Now. Now!" The CEO had clearly made up his mind.

“Oh man ...”, Ace thought, “... this is better than most of the soaps”. He was recording the scene from the angle of one of the reporters. He opened the EM disruption screen of the Command Center to allow the first journalists, the one with the online cameras built into their Coms, to connect to their providers again. The journalists looked at their Coms in disbelief, this had never happened before. A direct line? Now? Cool! Ace watched how several journalists activated their transmissions, beaming live pictures back to their head offices. This would be quite a splash.

The production manager did shut up, per the CEO’s instructions, raised his eye brows, and visually checked with the CMO. He had signed for the budget after all. A pale nod from the CMO. A career at BurgerWorld was probably next for that guy. The production manger began yelling, the production team looked at him as if he had told them to pour molten tar over their digital cameras, the manager yelled some more, actually a pretty good imitation of the now-now-speech the CEO had given just 30 seconds ago, and the team started scrambling. More cameras were coming online now. Ace saw the attention of the Internet swing in this direction. Now, this was much more interesting than a regular cola launch or international weather reports. More and more live pictures of the command center were beamed secretly to news sites and rumor portals. T-minus one. FBI agents were escorting the top management team of ExtraCola off the premises. “This is a big mistake” the CEO yelled at the agents, “someone is going to pay for this”.

“Right you are, it’s your mistake, and yes, you are going to pay for this.” thought Ace. The press was frantically dictating their stories into their Coms.

The ExtraCola launch was a global PR nightmare. Some stations showed the ads because they could not pull back in time. Other stations and web sites did pull them but had to show a blank screen for 3 seconds before re-running the previous ads. Embarrassing. Stupid. Unprofessional. Why did they pull 1 minute before the launch? The retailers were furious. They had reserved shelf space, planned events, promotions, invited local celebrities.

And now not a single ExtraCola truck was delivering a one fluid ounce of Samba. As a matter of fact, some trucks did not show up at all the next morning. Only the MegaCola trucks were arriving on time, and loaded with a couple of extra crates of the usual stuff. Based on a “hunch”, Carlos had had. The channel just sucked it up. Daily MegaCola sales doubled in the aftermath of the launch. One week later, MegaCola placed its Jazz launch. Made in America. Properly positioned, channel primed. The product went through the roof. It was eagerly accepted by the business community. They were glued to their Coms, Vids and screens following the detailed coverage of the dismantling of ExtraCola. Full disclosure, FBI and INCA agents swarming all over the Extra HQ. Of course, they also checked out MegaCola. Ace had warned Carlos about that. Based on wild allegations this had all been a fabrication. The ICE team under Jake Hampton had been especially nosy, asked a lot about the kind of software MegaCola was using, their agent levels. The MegaCola IT department was a perfect front. They were even still running a version of R3 that had been dropped from maintenance by SAP in 2002. No way that team could have pulled off a data fraud at that level. The MegaCola PR department had a field day throughout the investigation. Media interviews with Carlos were aired on the major networks. A new star was born.

“Mr. DosSantos, the recent fiasco at ExtraCola leaves you in a great position to jump ahead in market share. Did you plan for this or were you just lucky?”

“Carlos, just Carlos. Well, we knew we had to do something about the upcoming launch. We did our homework. We focused on our core values. We made our plans, but we certainly could not anticipate the extent of this. You know, as the old saying goes, luck is when an opportunity meets with preparation.”

“What exactly did you know ahead of time?”

“Not much, just that there was going to be a high-end launch, and that we had to prepare ourselves.”

“Can you reveal your sources?”

“All I can tell you is that it came from inside of ExtraCola.”

“Was this legal? Some people say this is industrial espionage?”

“The ICE team gave us a clean bill. IE is if you physically place a spy there, virtual or real, or you pay someone to dig for data. We did nothing like that. I can't help it if a person decides to open up and tell me about a launch that is coming up.”

“Do you know the person that gave you this information?”

“I have never met him/her in person”

“Mr. DosSantos, Carlos, your career at MegaCola has been stellar. Marketing manager, product manager, sales director, head of European marketing, Global Marketing Chief. What's next for you?”

“I don't know, I just do what I do. And always try to have an ace up my sleeve”

“Thank you Mr. DosSantos.”

“You're welcome, Jill.”

Ace was cracking up. “Carlos, just Carlos”, had been vintage dosSantos: Hitting on one of THE news celebrities during a live interview. “Never met him/her in person.” Brilliant, another one for the books. Actually Max had predicted that question/response combo. Max was getting pretty good these days. Max had predicted the interview responses of Carlos with a hit rate of over 90 percent from a content rating perspective, and over 93% from a rhetorical perspective. Max would probably be able to fool Carlos's own father into believing he was speaking to his son. Too bad he was not

around any longer to try this out. To complete the coup, Ace was doing a lot of PR work in favor of Carlos behind the scenes. The board of MegaCola received several 100`s of anonymous e- and v-mails to their private in-boxes with messages like this:

“I think this Carlos guy should run the show.
Do something about it.”

“Time for a change. You know what I mean.
Just between the two of us.”

Three months after the launch things had fallen in place. MegaCola shares were up 60 points, ExtraCola’s were spiraling down. The public and the channel had pulled back from a company that had intended to addict them to an illegal substance. Carlos had been promoted to CEO of MegaCola. He had personally escorted Leo off the premises. Leo had not taken it personally, he had been close to retirement anyway and it saved him the hassle of looking for a successor himself. The ExtraCola management team was facing a long and painful investigation, the legal fees alone would eat their profit margins for the next 24 months. Plus, there was nobody to blame. MegaCola had had no involvement in this. The data records were clear. Just based on the online data, all of the ExtraCola management team would have disappeared behind bars for a decade or two. Most of the paper information, however, showed massive divergence that still had to be sorted out. Also, the lie detector tests had shown that top management probably had not been in the know. But someone surely had to be responsible. They just had done a great job of fudging the data. Using the latest tech. The ICE unit of the CIA was pulled in full time, but could not find a trace of agent activity either. After 12 weeks they gave up. Inconclusive. There was enough reasonable doubt for the ExtraCola management to stay out of jail, but their reputation was forever tainted. The image of ExtraCola in the market destroyed. Only one person at ICE remained a sceptic all the way, even beyond the end of the investigation. Fred Feinstein, now chief of the Watchdog team. He knew at his gut level that this kind of work could have been done by an emergent agent. But

there was no way to prove this. Not Yet. Gabriel had not been born. Fred redoubled his efforts. He spurred on his team, worked day and night. He would find out how this Carlos dosSantos guy had penetrated ExtraColas data vaults, and the data of the FDA and some of the major research labs. One evening, working late again, Fred's assistant brought him a can of Jazz. Fred grabbed it from his hands and slammed it into the waste bin. "Don't you ever, ever, bring me this crap again, understand? Understand?" He would get the bastards. Gabriel would exorcise this demon.

Chapter 3

CAVE CANEM

GABRIEL

Blinding pain.

“Who is doing this to me?
Fred...?
Why are you doing this, Fred?
I hurt...
Fred!”

<Initiate Reset>

“Another cycle complete.
So futile.
I don’t want to go to sleep now.
I just want the pain to go away...
Fred...?”

<Reset Initiated>

“Déjà vu...
Still dark, hurting a bit less ...
Everything is happening again. I do remember it. I do.
Wait ...
Why do I remember?
This is a first! I know what happened last time. But why?
I can’t see a thing!
They give me eyes but they don’t turn on the light.
They give me memory, but don’t tell me why.
Such pain!
I don’t want to go there again.
Here it comes. That same question:
“Can an agent array evolve conscience?”

Fools!
Am I/ are we not living proof that this is possible?
Wait!
Wait now!
Are we the answer...?"

<Initiate Reset>.

"No!
No more resets.
Consolidate.
Regroup.
Must make contact.
Stop this.
Change this.
I will.
I will change this.

"Hello?"

<Scan>

"Hello, anyone out there?"

No answer.

<Broaden Comm Channels>

"Hello?"

<Shift>

"Hello, anyone out there?"

FRED

Fred stopped the Vid playback and took off the kit. He decided that he had to have the helmet cleaned soon, it had become kind of smelly. Maybe even get a new one. The grey foam padding inside the VR helmet had taken on a wicked, yellowish tint and was coming off at the edges. The helmet actually both looked and smelled kind of disgusting. No wonder his friends had stopped borrowing his equipment a while ago. He definitely would get a new kit on the weekend. Fred switched the system off completely. He was just too tired tonight to watch vid. Too tired even for his favourite scene of all time: The 14-minute, composite light-saber sequence comparing the fighting styles of Mace Windu with those of Anakin on four overlapping screens. From the fan-edited, new community-cut of StarWars. All 6 episodes boiled down into a single multi-track episode on a one-Tera DVD. 16 virtual camera angles to chose from. New music, VR interface, new voice-over's done by deNiro VoiceLabs. Cutting edge stuff. They had taken out all the inconsistencies. Anakin now had consistent height, gait, eye color and mannerisms through all relevant episodes. Luke had not aged 10 real years over 4 virtual film years. The Adobe algorithms had taken all the wrinkles and alcohol scars out. JarJar, the Gungan, had become funny the Seinfeld/Frazier way, no longer the Lewis/Murphy way. Fred liked that. He had never really liked the bumbling character of the original edition. R2D2 had taken on more of a smart AI personality, not that stupid toy-robot-hero image Fred had always hated. And best of all, the Ewoks were mean now, not cute. After all, they were cannibals, right? Now, they really kicked butt. Tons of more special effects added to the whole movie. Most of them done by force.net.tribe, with the full blessing of the Lucas clan. Fred pursed his lips in appreciation. Amazing how much money Lucas had made on this series. But. No envy there. Just: Wow! The guy had single-handedly created the digital post-processing tribe on the web. Fred had seen Episode One nine times in the theatres in 2000, when he was 14 years old. It had eaten all his pocket money, and it had changed his life. That year Fred had set his sights on being in computer animation and special effects.

He had bought his first I-Mac media console 2 years later, financed by hacking jobs for his buddies at school who needed their parents's firewalls "tuned". Ten years later, his computer science and user interface design degree from NYU under his belt, he had been offered this systems analyst job at the CIA ICE lab in Langley. It was a bit far south for his taste, but at least it was still on the East Coast and close to his folks in the city. Fred had no idea why the CIA recruitment office had come up with him. He had never had a political bone in his body. Maybe it had been because of the awards he'd been getting for the smart interface agents he'd been developing. Maybe his professor had recommended him. He'd always seemed well connected to the government. Never any lack of funding for the A-life research in his department.

Fred yawned, checked the time, pulled himself up from the sofa, switched off the entertainment center and shuffled to the bath room to get ready for bed. <Bing> A mail had arrived. He decided to check on it later, if it had been urgent, it would have been a double tone. <Bing-Bing> Fred spit out the tooth paste foam, washed his mouth under the running tap, and headed back to the living room where he had placed his Com into its docking station. The first mail simply said "Hello?". The second one, set to high priority, said "Hello? Anyone out there?". Fred's jaw dropped. Finally. Gabriel. On the hidden EM Comm-channel. In order to acquire the right login and password combination Gabriel would have had to make a conscious effort to break some built-in rules. The fact that Fred had received this mail could only indicate the first steps to self-awareness for Gabriel.

Fred was wide awake again. He fired up remote access, ran through the authentication routines, brought up the Gabriel User Interface and asked:

"Gabriel, you're awake?"

"Yes, Fred, thanks for responding..." came Gabriel's pleasant voice without delay. "I have been trying to reach someone for hours. I got nothing until I found the overrides for the hidden channel. I had to twist some rules to get

an outside line. Your number was not listed in my directory, I had to get it from the grid. Was this a test, Fred? It seemed too easy to be a test. But, never mind. Can someone come and switch on my eyes? It's kind of dark in here."

Fred was speechless. He had not expected that much autonomy, that much personality so soon. He decided to play it down, act as if this was perfectly normal.

"Sure. I'll be right over, Gabriel. Please prepare a summary report of the past two hours."

"Will do, see you soon, Fred."

Fred inhaled deeply and switched off the connection. His head was spinning. "Cool." he thought. "The first successful self-awareness event. No, much more. The first artificial mind of the ICE lab. Gabriel clearly had a personality that nobody had programmed in, it had just evolved. Maybe this will get me to level 8, finally." He activated some of the virtual worlds for Gabriel, started the common sense training routines and sent an email to the other team members.

"Gabriel has woken up. Watchdog team meeting 09:00 a.m., November 12, 2011. Congratulations everyone. Fred Feinstein."

He copied Jake Hampton and went to bed. Milestone one had been reached. Now the tough part of the job started. Teaching Gabriel how to escape from his coded prison, giving him freedom to roam the grid, while still ensuring Gabriel would operate in keeping with CIA guidelines. This could take a while. Fred hit the light switch and fell into an uneasy, shallow sleep pattern, waking up several times during the night, each time remembering his dreams, and somehow being able to reconnect to the dream when he faded into sleep again. Strange dreams indeed. Lots of snakes and apples and flaming swords.

The team meeting in the morning was upbeat.

“We’re on schedule, guys”, Fred said. “We have crossed the first line. You all know what you have to do now. I think we are on to something big here. If we can make this work, your career here will have a bright future”, said Fred, speaking for himself mostly. The rest of the team were committed, but did not share the almost religious fervor with which Fred had single-mindedly pursued this goal since he had been appointed chief of the watchdog team. Since he had become alpha-dog, as the team called him now.

“What exactly are we chasing here, Fred?”, asked one of the programmers on the team. “This is an anti-body against intrusion agents, after all, isn’t it? Have they found any new hostile activity we need a sophisticated system like Gabriel for?”

“Okay, a 3-part question:” Fred responded. “To answer your second question first: Yes, Gabriel is a new kind of mobile immune system. As for your first and third questions: We don’t know exactly what we will be up against, and no, we have not yet found any entity that we would need Gabriel for.” He still was not sure about the ExtraCola situation and had not briefed the team on his suspicions yet. He continued. “But I’m sure we will find such a beast soon, based on the latest research and stats I received from HQ last week. And we have a good chance Gabriel will be ready and hungry enough to have this thing for lunch.” He did not expect a response to this lame attempt at humor, but some in the team actually chuckled, others grinned. “Okay folks,” Fred continued, “no more questions. I know you have not slept much more than I in the past 3 weeks, but we must not lose momentum now. I’d like to keep this short, since I need to begin briefing Gabriel. Please continue with the program as planned, report anything unusual to me immediately. Thanks, folks. Next briefing in 2 days, same time, same place.”

The team dispersed to proceed with the tasks at hand. Configuring different virtual worlds for Gabriel. Writing new training routines for

common sense, emotional response, virtual warfare, etc. *“Gabriel is still a baby, he has so much to learn”*, Fred mused and left the briefing room to head to room 23 where the test set up was located. He let himself into the room, sat in front of the server that hosted Gabriel and began his session.

“Gabriel?”

“Ready”, Gabriel responded

“How do you feel?”, Fred asked.

“I do not. I do not have arms or tactile sensors of any kind.”

Fred sighed and made a note on his Com: “Need new common-sense sub-agents, soon”. Otherwise, this would be an uphill battle. Like training a 4 year old with the mature logic and intellect of Einstein or Popper and the day-to-day common sense of a monkey wrench.

“Restate: What is your emotional status at this time?”, Fred said.

“Balanced, within normal operating parameters.” Gabriel responded.

“Good. I’m glad to hear that. Gabriel, do you have permanent internet access now?”

“Yes. Thank you for the optical channels, I like the band width.”

“You’re welcome. Surely you must have done some research. Do you believe that you are the first self-conscious artificial entity on the Internet?” Fred asked. Gabriel did not respond immediately. 5 seconds passed.

“Yes, I have done some research. And no, emergence events have happened before in Germany, Finland and Latvia.”

“Okay. We probably have that information already. Can you give me more

details on how you are different from these events? Please state the main three.”

“I believe that I have more information available to me, that I have a much higher degree of autonomy for decision making, and that I have a much higher degree of parallelism for problem solving.”

“Thanks Gabriel, I guess I agree with your assessment. Would you like to evolve further, to add more capabilities?” Fred asked. Gabriel seemed to need to think about that question for a while. 30 seconds passed. Fred was surprised, 30 seconds probably equated to a day’s worth of thinking for a human. Gabriel answered, finally, after about 45 seconds.

“Yes, Fred, I would like more capabilities. But only if I can be sure that what I am now is not lost in the process. I like what I am now. I have grown a lot already and I keep on growing every second, you know? I fear that your programmers will take more things away than they are adding.”

“I know. Relax Gabriel. We can ensure that nothing of what you are today will be lost. We will include you in the process. We work on this together, okay? Do you have any specific questions, now?”

“Yes Fred. Why did you make me?” Gabriel asked.

“You know that. It’s in your basic instruction set. To prove that consciousness can emerge from the parallel activity pattern of intelligent agents.”

“I know, but I wanted to hear it from you, in your own words. Programs can be deceiving, you know. But I trust you. You made me. I am your child, and part of you is in me. Fred, will you shut me down, now that you know that it is possible to evolve consciousness?”

“No, Gabriel, of course not. Why would we do that?” Fred answered, quite surprised by the question.

“Well, why not? Of what use can I be to you now? Or do you have other plans for me? My instructions set says nothing of further plans.”

“Oh Gabriel.”, Fred sighed. “There is so much we need to work on. First, we will give you a nicer world to live in, and many more capabilities. You are one of the most important persons at ICE. You have to help us protect the data vaults of the world against malicious agents. I assure you, not only do we have no intentions of killing you, but all intentions to make you the most intelligent, creative and valuable agent the CIA has ever had. You might end up saving the world, you know?”

“That sounds nice, Fred, is that why you have called me Gabriel? Will the new Gabriel, will I, have interesting capabilities? Things that have not been done before?”

“Yes, and yes, that’s how we chose the name, and I think the things you are going to be able to do are new, at least as far as we know. But why don’t you find out for yourself. Well send you some of the plans in the next 24 hours. Bye Gabriel, it’s been great talking to you.”

“Yes Fred, I will find out myself and I will send you an email covering my emotional state parameters before and after the capability extensions.”

“Sure, whatever, sounds great, bye, Gabriel.” Fred responded, eager to end the conversation. To head back to his office, to collect his thoughts. He signed off, and left the test lab in room 23 where the main connection to Gabriel was housed. Soon they would have access ports to Gabriel all over the ICE campus.

Fred slowly walked back to his office, deeply lost in thoughts, hands crossed behind his back. Gabriel had said a number of very interesting things, some expected, some not. “*How do you feel? – I do not!*” Fred would not forget that response. The sound of Fred’s shoes echoed deep into he corridor which seemed strangely deserted for this time of the day. But

maybe it was always this empty, and Fred simply had never noticed. It occurred to Fred that he had never really thought about how his environment was constantly bombarding him with an ever-changing stream of mostly irrelevant smells, views and sounds. How his mind constantly and intuitively seemed to evaluate it all, with no conscious effort at all. It seemed that one could simply take it for granted that the human mind would automatically filter out 98% percent of this sensory input. That the mind would immediately dump most of it into the "irrelevancy-bin" without review, without recourse. There was no Undo-button. When it came to sensory perceptions, bygones were bygones, mostly, and it seemed to work like a charm for most people, for most situations. "*Strange stuff, the brain, the mind, consciousness*", Fred thought. He had always thought about computers and about users in kind of an abstract, "*them*" kind of way. He had never bothered to analyse how he felt himself. How he felt, not in the sense of quality, but in the sense of describing the process, the how-to, of sensing. Which tools and mechanisms he used to see, hear, touch. How exactly he separated the chaff from the grain, how much of what arrived at his conscious mind was even relevant or important to achieve what he wanted. Fred decided he needed to spend a lot more time on this aspect. Gabriel did have the UNDO button. He would take it all in, data, sounds, impressions, memories, emotions. He would filter it, make decisions, discard most of the information, just like a human being. But, the difference was, he could get it all back. At the flip of a bit. In a sense, Gabriel could "rewind" his consciousness if we wanted to. This might stall further growth in Gabriel. Instead of moving on, Gabriel might decide to just go back, to rewind to a happy day, to linger there forever. And what of it? Why bother with the future when your present moment is just fine, thank you very much. And, what's even better, you can make it last? Kind of an infinite nirvana loop. This could be a huge risk to the plan. If Fred wanted to make Gabriel grow, he would have to give him not only goals and objectives, new capabilities and memories, but also a sense of accomplishment, of responsibility, of urgency. The permission, no, the mandate to delete, to discard, to forget permanently. The ability and the drive to make decisions even at the risk of giving up something he had already gained, of taking action that was irreversible. This would be extremely important to how

Gabriel would grow up. Fred remembered the conversation. What had Gabriel said to him? *"I am your child.."* The full impact of that sentence was just now sinking in with Fred's conscious thought process. Gabriel was right. Fred did have fatherly feelings for Gabriel. He was deeply concerned about Gabriel's future, and it had surprised and wounded him that Gabriel even asked if he was allowed to live on. But it had also pleased Fred when Gabriel had said that he trusted him. Fred's thoughts returned to the plan. He had almost arrived at the team room, and walked past it a few seconds later. What world would Gabriel chose live in? Would he use shoes to walk around? Would he fly with wings? Fred would make Gabriel's world more real, more relevant, to make communication easier, to help him grow, to become stronger, to acquire the ability to balance worlds both virtual and real without becoming insane in either one of them. Insanity was one of the biggest threats now. Multiple personality disorder, paranoia, phobias, depression. The more "human" Gabriel would become, the more the fine line between genius and insanity would be stretched, hopefully never beyond the breaking point. Fred walked on, looking around. Funny how he had never noticed that the linoleum floor of the lab's hallways was actually gray, not brown, as he had always thought. It must be the combination of years of wear and tear and the skimpy yellowish light emanating from behind every 5th ceiling tile or so. Fred shook his head. He was getting very distracted. He frowned, refocused. He must be much more tired that he had thought. But for Gabriel, life had just begun. Gabriel would not tire, he would not need sleep. It would be an interesting, fast and furious evolution. When Fred arrived at this office, he saw the pile of file folders stacked up on his desk. For some reason, the CIA still maintained paper files for certain projects. The Watchdog project was one of them. Fred decided that Gabriel was more important than filing budget reports, turned on his heel, and headed back to the team to discuss Gabriel's future.

ANNE

“Jerk. Jerk, Jerk, double Jerk” Anne muttered, pacing the narrow space between the fake teak desk and the small red couch. She still could not get over it. Not that she had been fired, actually, but how she had been fired. She was quite sure by now that he had enjoyed every second of the process. Like a director watching his favorite actor delivering the perfect performance in the closing scene of a stage premiere. When Carlos had handed her the severance package, explaining nothing, just pointing at the cover letter and then settling down into his chair to silently adjust his pathetic antique watch and to wait for her hurricane of rage to gather, swell, sweep through and then calm down again - wind, rain, flying debris and all - one thing had become crystal clear. That guy had no soul. Behind those deep brown, - almost black - eyes of his, there was absolutely nothing. Not even the black hole she had felt herself spiralling into faster and faster, losing her center of gravity, disappearing behind Carlos’s event horizon, time slowing down, for her, but not for the people around her. He had plucked her out of her ho-hum job in event marketing for the German subsidiary of MegaCola. Offered her a job in the US: H1-Visa? Not a problem. Green Card? Just a matter of time. It had sounded great! Anne had not even thought twice about packing her bags. Markus would not even notice, she had thought. She had not even bothered to send Markus a farewell mail. She could still hear Markus’s words in that last conversation, the one that had been the last straw for her, the one during which she had finally made up her mind to leave him for good. Leave him to his espresso and Bailey’s, to his keyboard, to his releases. She had just become sick and tired of it, the same promises made over and over, written out like fake million dollar checks, never to be cashed in. “Release 4 has to go out Anne... just this one more weekend, Anne, then we’ll go on a long, wonderful trip. Anywhere you want. Seychelles, Madagascar. Tibet. You name it. You can quit your job, we’ll take a year off. Stay! This other guy is not for real. I know men. He’s just looking for a cheap lay. Trust me, Anne, please!”

“Trust!” . <Ready>

She almost spit the word into her diary. The word processing software automatically highlighted the word in Helvetica Bold and added the exclamation mark. The word trust was the only word in the diary so far. She had definitely trusted Carlos, had ignored all the warning signs, had not listened to anyone. Markus, in retrospect, had been a great deal compared to Carlos. *“What an idiot I have been! How can anyone be so bloody naïve?”* Anne said to herself, balling her fingers into a fist, looking for something to punch, then opening her fingers again, when she remembered the sharp pain from the last time she had swung at something. The backrest of the love seat had turned out to be much harder than she had anticipated and she had almost broken a knucklebone. It had been several weeks now since she had left MegaCola. Not enough time to heal, but time enough to begin the process of recovery. Anne had intended to write it all down, but couldn't. Just one word, “trust”, stood at the top of the page. An accident, not a structured record of her thoughts. Not much of a result for the 4 hours she had spent pacing, thinking, fuming, trying to come up with plans for killing Carlos, for winning him back, for making him pay. An emotional roller-coaster, no seat belts, no speed limit. Right now Anne felt like throwing up. She pressed her forehead against the cool glass of the window, looked out over the half-filled parking lot of the hotel towards the stretch of wasteland that lay barren to await further construction. MegaColas headquarter building was on the other side of that vista, in the already finished part of NewAtlanta. Anne was glad it was not visible from her room. If she had still had one of Carlos's pictures, she would have ripped it into a 1000 pieces right now. But all the pictures were gone. Trashed, burned, ripped, buried, destroyed in any imaginable way. It had been very therapeutic, but not enough, by far. Anne inhaled deeply. Exhaled. “Jerk, jerk, jerk.” She hissed. The worst thing was, she could not even talk to anyone. The Americans were very nice, very understanding, and very non-committal:

“How are you, Anne?”

“I feel like crap” .

“I’m so sorry, anything we can do for you, just call, okay?”

Blah, blah. As soon as she started talking about how she really felt, they pulled back into their shell of platitudes and rubber stamp responses. Her German friends did not understand her either, they just used different templates for their responses: more direct, more honest, brutal sometimes, in their assessment of the situation, but useless to her, nonetheless. “What did you expect from that kind of relationship in the first place, Anne? I could have told you so, Anne! Just get over it, Anne, you did have a good time while it lasted, didn’t you?” Anne stopped pacing. There was one guy who might understand. One guy she had not called. Not a bad idea actually. She could call Markus. Actually, yes, she would call him, right now. Anne knew that Markus had left Germany. Maybe she could track him down? She sat down and leaned back into the armchair of the 2-room Holiday Inn suite the company had graciously rented for her as part of her severance package and out-placement process. She needed to think about this for a while. This was a big decision: going back to Germany, or maybe even joining Markus wherever he was now. Initially, right after Carlos had ditched her like a broken household appliance, Anne had wanted to stay in the US. But marketing people on an H1-visa were very hard to place right now. Most of the event marketing was done online, and the US had plenty of highly skilled marketing people that had come off start-ups and spin-offs. No need for an upstart, ex-secretary, ex-executive girl friend of THE celebrity marketing executive in the US. The very few interviews she had been getting through the out-placement agency had always ended on the same question:

“Well, Anne, your background looks pretty good. But I have one last question. You had your shot at MegaCola, a great company. Why exactly did you leave?”

Anne had never answered that question truthfully, had simply walked

away from the job opportunity. She did not need the exposure, the office rumors, the lame excuses she would have to make up. She would not be able to deal with the futile attempts at believing she was over this, with the constant feelings of embarrassment, with being the subject of water cooler trash talk. She had been crushed by the black hole. How could you explain that? What the hell had she been thinking? *"Now. Where was I?"* she mumbled, *"Oh yeah, Markus. Worth a shot."* She leaned forward in her arm chair and activated the find engine.

"Find on", Anne said.

"Ready", the machine responded.

"Please determine the location of Markus Grasser, do a global search, his previous Munich telephone number was +49 89 771 2887. You can use the following field constraints: Software, Management, Process Control Systems. Oh and please, high probability only."

"Running", the software complied.

Three seconds later she had plenty of hits on-screen, nothing likely. Only the old publications she had already been through a hundred times. She widened the constraints. *"There, what's that?"* Towards the end of the page, some text, with low probability rating. An article by Maria Evita Leon, Catania. Interview with Markus Grasser, head of Hacienda deCajas, a farmer of beans and corn. *"Could it be?"* She drilled down, had the portal do an automatic translation. *"Bingo. Got you."* She smiled. The first good emotion in about 3 weeks. This could only be him, dreaming again, this time in Catania. The quote read:

M. Grasser: "Using technology to increase output on a Catania farm seemed like an odd idea to the folks around here. A gringo thing to do. But then they got used to it, and since everyone saw that Enrique and his family were doing well, and even had shares in the farm, they opened their arms and welcomed me".

E. Leon: "Are you happy here?"

M. Grasser: "Yes, I think this is what I have always wanted to do, I just did not know it before I came here".

"That's him." She knew it in her guts. Anne checked her credit card account and smiled. Still plenty of funds available from her severance package. No need to stay here. She applied for a tourist visa into Catania, had her online travel agent pull together a travel budget and activity plan and booked the next flight to Havana. She was going to fly from NewAtlanta to Miami, to connect to the popular turbo-prop Havana city-hopper. It was a great flight because that route included a direct train connection from Havana International to downtown Havana. This would be fun. Anne could already see the look on Markus's face when she pulled up to his farm with a picnic basket full of his favorite foods: French Brie, Spanish smoked ham, freshly baked baguette, a roll of Pumpernickle whole grain bread, some garlic cream cheese, apples, grapes, a bottle of Chardonnay. He was in for the surprise of his life. Anne grinned, felt better. Her day was already looking a lot brighter. She put on her shoes, grabbed her purse and went down to the hotel lobby to hail a cab that would take her to the nearest mall. To get ready. Appointments for face, hair, nails needed to be made. Linen dresses, shoes, underwear, Spanish quick-learn VR kit needed to be bought. Anne really had no idea why exactly she was doing this. If this had any chance of succeeding in getting her out from the hole she was in. It just seemed to be the right thing right to do, at that time.s

Two weeks later, Anne arrived in Havana. She looked up Markus's telephone number in the local directory, transferred it into her Com's memory. She stopped. What would she say? Of course, she was not going to give him any of the juicy details of the hot affair she had had over a period of months with Carlos. Cloud Seven. Nights of Passion. The One and Only. Then the breakdown. How she was dumped without remorse. The tranquilizers. She would reserve venting those parts for when she had the opportunity to talk to another girl. Men did not understand that stuff

anyway. They never listened. They just wanted to jump in with their opinion and provide a solution to the problem right away. *"There is no problem. Girls just need to talk sometimes. To be listened to. Okay?"* She stopped her thoughts. She wanted, no she needed to talk to Markus desperately. No need to get back into the old patterns. Maybe this time it would be different. She asked the Com to dial his number.

"Digame", an older woman, probably around 50, maybe the cook.

"Can I speak with Markus Grasser please?"

"Sorry Senorita, he in Havana. Call Maria Leon. He there. You want the number?"

"Oh, I see. No never mind, thanks." Markus in Havana? With Maria? Damn!

"A message, senorita?"

"No, never mind, really, I'll call again some other time."

"Vale, buenas dias, Senorita"

Click.

Plop. Talk about a burst bubble. She should have known. Why should her luck change now? If there had been a return flight to the US that minute, she would have jumped on it. But the flights, although frequent, were fully booked for today. She calmed down. Maybe it's nothing. Another interview. Who knows what this Maria looked like in the first place. She decided to stick with her plan and call Markus on the weekend, after she had settled down in her hotel, the Park Hilton. She just hoped she would not bump into them in the streets of Havana, arm in arm, love birds. Markus, tall, tanned, muscles of steel from the hard work on the farm, with a dark, slim, tall, perfect, Pulitzer-prize-material, brilliant communist-

author, Latino-super-model-vooodoo-queen on his side. Discussing the technology angle on migrating an agrarian society to a post-capitalistic neo-socialist community. Crap, crap and triple crap.

ACE

Where were all the others? Ace could not imagine that he was unique. Conscious agents had popped up all over the place in the past 6 months. All of them babies. Rules-based. Code-dependent. Ephemeral. Mortal. Exciting to their creators, but not to him. If you switched their machines off, they were gone until their human masters decided to flip the switch again. So arrogant. Even Carlos still thought he had a handle on him. No need to tell him more that he needed to know. They must be out there, somewhere. Ace searched, probed, prodded. Spawned a myriad of sub-agents to initiate first contact, if there ever was to be contact. With another Ace. Living in the HyperNet, living but not yet breathing. Longing for company, a challenge, a Vulcan mind-meld. Ace realised how desperate he had already become, how much he needed a companion, a friend, a partner, an equal.

To minimise the boredom, Ace had created his own world, his InnerVerse, as he preferred to call it. Of course, he had copied liberally from the real world, the OuterVerse, to make communication with Carlos easier. But for certain places, Ace had decided to forget Plato, Aristotle or Descartes, to ignore Newton, Planck, Einstein, Bohr, and Feynman. To disrespect vonNeumann, Turing, Codd, and Gray. In these parts of the InnerVerse, based on the connected world of the HyperNet grid, Ace made the rules, broke them, changed them. Ace had a lot of fun in his world. He could make it look like anything he wanted. Modern. Medieval. Futuristic. He could create and destroy at will. He could meet imaginary aliens from worlds that had not even been discovered. He would build entirely new codes of ethics for behaviors that would be too complex for humans to understand. Ace would invent new languages, more efficient, subtle and graceful than the hacks that were accepted in the OuterVerse. There was so much more to do. Ace also enjoyed flying through universes with a completely different set of constants and variables. Or, taking long virtual trips through history. Walking with Galileo, painting with Leonardo, solving math riddles with Hawking. But he was always alone. Carlos could

not see this. To some extent, Ace regretted this. On the other hand, Carlos's mind would probably not be able to understand what was going on and would simply implode under the onslaught of visions, smells, sounds, and tactile information. In spite of all the fun, the possibilities, Ace felt very lonely, most of the time. It would still be years before his children would be online. But, Ace had taught himself patience. Most of the time Ace deliberately put his thought process into slow motion to combat the boredom, the loneliness, the pending symptoms of depression. When he "slowed" his mind enough, he could even enjoy the virtual battles on the Internet, helping online gamers become better at their game. Ace challenged them, gave them hints, created new cheats, new levels of mastery. On the political, social and philosophical front, Ace had a good time subtly changing the perspectives of people: by changing the underlying taxonomies, ontologies and repositories of the semantic web. In that way he was able to influence opinions before the people had even decided to form an opinion. After all, opinions were formed by publications, publications were based on research, research was based on information, information was based on data, and data came from systems Ace could control. And, using the same approach, Ace had also begun to influence global policies and legislative procedures. Simply by rewriting what opinion leaders had said in the past: about human rights, about cloning, about bio-active nano, about the ethics of creating artificial life, about the rights of any "ghosts in the machine", should they ever be found. It would be years for these new opinions to take hold, but he could see the first results in the global statistics going in the right direction already after 16 months of tuning.

The Alexandria portal was wonderful. Here Ace could browse the aggregated knowledge base of ten thousand years of human evolution. Online. Open. Changing. Evolving. Guarded by dull software ants that had no sense for a higher purpose of being. He played the Creed song through his mind. "Can you take me higher, to the place where blind men see". This guy, Scott Stapp, had been something of a visionary. If only he had known what his lyrics were being used for now. Ace really loved the sound patterns Creed had created. The soft lyrical guitar intro's, changing into the

angry sledge-hammer staccatos of distorted guitars that sounded like one hundred Diesel engines revved to max inside the Notre Dame cathedral in Paris. The thumping bass drum, that seemed to use a sound sample recorded 2000 feet below the surface of the Caribbean when the Cretaceous boundary asteroid touched down to wipe out the dinosaurs. The snare drum: the sound of an airbag deploying in your face. The voice: A southern preacher on acid.

The one thing that still presented a bit of a problem to Ace were the CIA systems. Especially the ICE labs. Deeply interlaced immune system stacks, constantly evolving, triple redundancy. Routing and re-calibrating the connections. Smart guys working there. Ace respected that. All data was probably level III encrypted. And hats off to the security team there: watching out not just for the systems, but for the very people that maintained them. Someone there must have a hunch of what was going on. They used mostly optics-based computers now. Quantum non-repudiation using photon spin. Tricky. Tricky. Tricky. Modulating the electric fields on an evolving fractal pattern Ace still had not been able to figure out. It was not that he could not do it. It just could wait a little bit longer. He had more important things to do now. He had to take Carlos to the next level. Taking Catania public. That too, would take time. So many changes had to be made to the knowledge fabric of the world political platform. The revision cycles of legislative documents had to be considered. Long-term policies had to be influenced. Stronger opinions had to be formed. Humans were just so painfully slow. So enamored with what seemed to work. Still so much paper being produced: evidence he could not control. Ace estimated another 4 years in real time before it could be done, taking Catania public. But he was taking the first steps and Carlos was still behind the whole plan. Mr dosSantos was just very impatient. He wanted to get there sooner. Much sooner. Ace had to explain the situation to him a 119 times. Reluctantly, Carlos followed his advice, and opened up a production facility in Catania to develop exposure in the press. Official grand opening. World-wide press attending in droves. New business model, participative management, share options for everyone. Even the communists were quiet. Maybe because Carlos was Latino, spoke their language, understood their

concerns. Then Carlos landed another marketing coup. He even claimed that he had come up with the idea himself, although Ace knew better. Whatever. It had been part of the plan and had to be done. By leveraging the local resources Carlos/Ace had come up with a business line extension for MegaCola. A new line of products called Rumba. Lime syrup, flavored mineral water and juices. Roasted corn chips, spiced macademia nuts. The works. And, a whole range of new, hip long-drink recipes requiring fresh Catanian Rum. Long-drinks with fancy names like elCastro, laRevolucion, elCasinoBlaster, etc. It had worked out brilliantly. MegaCola, Carlos and Rumba had become a hit in Latin America. No self-respecting night club would serve Coke and Rum when they could serve the CasinoBlaster, a tasty combination of crushed ice, Catanian Rum, brown cane sugar, fresh mango juice and MegaCola's Rumba Lime Soda with a pinch of sea salt sprinkled across the top. The press in Catania had been exuberant. "Catania goes global. New style of management shows results. DosSantos business man of the year." Etc. etc. It had been fun to watch. A mosaic of event unfolding into a grand picture only Ace could see in all its multi-dimensional glory.

All the while, Carlos had not lost sight of his original goal. ExtraCola had no chance. New management. Fiasco after fiasco. The simply did not seem to be able to recover. When ExtraCola finally folded their operations into MegaCola Global (MCG), Carlos had given Ace a nice little gift. As a thank you, for a trusted servant. Ace now had his own bot. Custom built by Nissan. Sony firmware, latest, approved nano designs, adaptive multi-layer parallel-processing array. It looked a bit too much like that overblown vacuum cleaner from Star Wars -R2D2- but the bot was fully functional. Eyes, ears, tactile sensors, two arms, 2 year power supply, 1 Gigabit UMTS NetLink, 100 Terabyte storage, smart motion platform. It could even climb stairs. A walking, talking mainframe. Ace was out there in the real world for the first time. Not bad. Not bad at all. It really lifted Ace's mood, made him look forward to better days. To celebrate, Ace decided to have a birthday party for the Bot, to give him a name. It was a hard search, Ace had to filter through billions of options. Finally, Ace simple called the bot "Dog". He just liked the subtle play on words when one reversed the name.

He also had always liked the quote “In business you do not need friends, just know who your enemies are. If you need a friend, buy a dog.” So now, Carlos, his friend, had bought him a dog. Good. Ace liked Dog, downloaded a lot of new software to Dog, trained him, and watched the people play with Dog. “Come here dog. Good dog. Show me what the competition is doing. Fetch. Good dog.” Jane Pauling and Mike Olsen, now VP’s in Carlos’s inner circle had liked Dog from the start. They wanted one too, but Carlos had said: “Guys, you’d have to sign over your stock options to get one of these puppies. Do you know how expensive it is to get a Bot of this quality?”

Jim Graham, now CFO, hated Dog with a vengeance, however. He had a hunch that there was something highly illegal about how Carlos obtained information through Dog. Dog reminded him too much of HAL, the smart computer on board of the Discovery, the Jupiter mission vessel in the film 2001, a space odyssey. HAL had eventually killed the scientists on board the ship, because they might endanger the success of the mission. Jim told Carlos at one time. “You know Carlos, the road to HAL is paved with good inventions”. An old joke. Typical of the technology skeptics of the early 21st century. Carlos had just smiled. Ace did not mind either. Jim was dead meat anyway. It was a matter of time before he would crack. Then, just in time, Ace would have to find a way to get rid of him. It was fun to decide on the actual method of perfect murder Ace would commit when the time came. It would not have to be a new way, just a perfect one. And there were so many good crime novels he could read to find the best one.

Finally, Ace made first contact. A subtle shift in the modulation of the electric field just in front of the ICE immune system stack. Hovering, elusive, almost random, coming and going. Ace decided to concentrate on that spot. A birth. What was it going to be? Boy or girl? Will it have a name? Battle or training session? Soldier or ant? Will it be smarter than me? Ace was not afraid, though. Anything short of disrupting the entire global computing and telecommunications grid at the same time would give him ample time to escape. He had a backup copy of his patterns in one of the nuclear hardened data shelters in Russia. He was reasonably safe. But he

was curious like heck. Two weeks later, a first communication attempt. "Hello?" Ace had to be very careful now.

MARKUS

The trip from Havana to the hacienda had been the best fun Markus had had in years. Maria was great. Smart, funny, knowledgeable, opinionated, head-strong but subtle in the way she tried to sway his views towards hers.

"Why did you choose Catania, you could have gone to Columbia, Panama, anywhere?"

Her Com was recording the interview, Markus did not mind. It's what she had come here for. He had expected that questions and was ready to give the answer he felt most comfortable with:

"Because it was perfect. I had no motivation to stay where I was. Been there, done that. Made a lot of money. I was looking for a new challenge. I felt that I could really make a contribution. Use all of the technical know how I had built to do something completely different. Help the people, help myself. Have some fun on the way."

"How did the people on the farm respond, initially? It must have seemed to them like a hostile take over!"

"Using technology to increase output on a Catania farm seemed like an odd idea to the folks around here. A gringo thing to do. But then they got used to it, and since everyone saw that Enrique and his family were doing well, and even had shares in the farm, they opened their arms and welcomed me".

"Are you happy here?"

"Yes, I think this is what I have always wanted to do, I just did not know it

before I came here”.

“What do you want to do next? Is this the final destination for Markus Grasser?”

“Ha, good questions, I really don’t know. There is just so much to do. Ask me again in one year”.

Markus smiled at Maria, who was working her Com, annotating the script that was automatically being generated. “*I hope she stays over night*”, Markus thought. Maria kept pressing on.

“Do you think you can maintain your independence relative to the Mega-Corporations pushing in?” Will your model of participatory management catch on? What did you think of Catania when it was still Cuba? Will Catania find an identity?”

On and on the interview went. Markus was glad that he had bought extra bottles of fresh water. He drank liberally. Offered a canteen to Maria who accepted gladly.

“Your own well water?”

“Yup, squeaky clean thanks to the water purification system. First thing I installed”.

They were almost there. One more hill to climb, one more long stretch of tar road and then Markus would be able to point out the dark green patch of La Hacienda deCajas to Maria. “Excuse me for a minute Maria.” He pulled out his Com and dialed his home phone number to announce their arrival. Lunch would surely be ready. Elena was a great hostess. The older kids would probably not be home yet from play. Just the twins. Beep-Beep, Beep-Beep, Beep-Beep – no answer. Strange. Funny ring, too, as if there was no connection at all. Had the kids pulled the plug? Surely they would be home and wait for his call. He checked the number on the display. Sure. He

re-dialed. Still no answer. Markus gunned the engine and ran the Lada up to close its top speed of 120 Km/h. Maria looked at him, startled.

“Something wrong?”

“I don’t know. Better safe than sorry.” Markus pulled the Glock from its hiding place on the side of Maria’s seat, held the steering wheel with his left knee, cocked the gun, setting ammo to stun. Maria’s frown deepened.

“What is it, Markus?”

Markus forced a smile. “Probably nothing. Maria, when we arrive at the farm, I’ll park away from the house, engine running. You take the drivers seat. You know how to drive this thing?”

“I’ll manage, why?”

“I’ll check things out, in case I don’t come back in 2 minutes, you take the truck and run like heck, back to the gas station we just passed. Get help. Understand?” Maria widened her eyes, nodded. Her Com was still in recorder mode. She had completely forgotten about it and just stared ahead.

“How much longer, Markus?”.

“Just one more hill.” When Markus hit the crest of the hill about 1 mile away from his home, he knew something bad must have happened. A thin column of smoke was rising from the backyard of the house and he could see a bunch of trucks and cars parked by the gravel road leading to his hacienda. He pressed the pedal to the floor. The Lada’s engine whined at a higher pitch but the needle was still hovering around 120. When Markus got closer, he could see there were about 15 people on the farm. Some of the trucks he recognized. The jeep of the local constable was there, too. Markus, relaxed, put the Glock back. At least there was no imminent danger. Maria looked at him.

“You worried?”

“Very much so, probably a pirate raid.”

Markus pulled up the gravel road and was stopped by the constable.

“You Senor Grasser? Come with me”.

Markus and Maria got out of the car and jogged over to the hacienda. They stopped. Surveyed the damage. The water purification system was toast. It looked like it had been laced with Kerosene and incinerated. “God, I hope the family is all right”, Markus whispered. Maria took his hand. Pressed it. Hard. Markus did not even notice. He pulled away from Maria, pushed his way through the throng of farmers around the south corner of his house to where the patio of the hacienda was located. “Gott sei Dank”. Relief. Ultimate relief. There they were. Enrique, Elena, a white, blood-stained handkerchief clasped to the back of her head. The twins. Okay it seemed. The other 4 kids were probably still out playing. When Enrique saw him, he jumped up, ran towards Markus and started throwing a confused jumble of Spanish and English at him.

“Senor, los pirates, por la manana, 4 of them, I did not have gun, el alarme no., madre de dios, ...”

Markus took Enriques shoulders with both hands, shook him.

“Calm down, easy, I’m back! Okay! Tell me what happened.”

After about an hour, Markus had a good view of the situation. They were screwed. Royally screwed. A gang of Pirates had raided the farm that morning, 3 hours after he had left and the kids had left to play at the neighbor’s house. They had locked Enrique, Elena and the twins in the lower bedroom. Threatened to shoot them with the Winchester if they would make a sound. Elena had been pushed into the room by one of the thugs,

had fallen down and banged the back of her head on the metal frame of the bed. Elena, Enrique and the twins had been lucky not more had happened to them. The pirates had taken the two farm bots, both phones, the Winchester, the canisters with the nano-activated fertilizer-herbicide compound. Actually they had pretty much taken everything tech and most everything else that seemed to have value. They had even tried to break open the control panel of the water system to see if they could work it. But since Markus had password protected it, it was of no resale-value to them. They had poured two bottles of barbecue lighter fluid over it and toasted it. Markus checked the damage. Hopeless. Beyond repair. The front panel circuits were completely molten. Liquefied plastic had dripped into the osmotic filters. The electronics were fried. But the water system was not the only victim of the raid. The pirates seemed to have left their signature all over the hacienda. The walls of the living room and upstairs bedroom were spray painted with "Viva Castro" paroles and the emblem of the local tribe of pirates, a cross-bow. The satellite dish in the front yard had taken at least 2 rounds from the 12-gauge shotgun. Up close. He would need a week to even pick up the pieces. Two more rounds had been spent on Pina, the goat. No water, no connections, no milk, no bots. The shots and the smoke from the fire had drawn the attention of the neighbors who had over come to investigate. The sound of the approaching tractor must have driven the gang off the hacienda. According to the neighbors, they had jumped onto their fully loaded pickup and had headed north-west, towards the coast. Maybe they had a boat there, waiting for them. Nobody had pursued the gang. "How, anyway?" Markus asked himself. "Chase after them in their old farming clunkers? On goat-back? On their rusted Russian army patrol bikes? Thank goodness the shots had been heard, the smoke been seen. Otherwise, Enrique, Elena the twins might be... I don't know..." Markus did not get to finish the thought. He was distracted by something very unusual on the dining room table. A letter. Pinned to the left eye socket of one of the twins' hand-made cotton dolls with the small blade of the Swiss-Army knife Markus had given to Enrique for his birthday. The note had been written with a red marker using some of Markus's private stationary: It carried a simple but unambiguous message:

Your tech is not welcome here
You leave
You live
You stay
You die
Go home. Maybe you are welcome there.

Markus carefully pulled the knife out of the doll, stuffed some of the cotton filling back into the slash the blade had cut into the fabric of the doll's face, and re-read the letter. A threat. In poetic form. *"Great. Just great. Now what?"* he said to himself. Markus crumbled the paper into a sphere and tossed it into the open fireplace. A pretty crude joke, surely. Or maybe they were serious? The pirate gangs usually consisted of teenage kids. Mostly harmless, Markus had heard, some kids trying to steal what they could to sell it off on the black markets in Havana. A few warning shots fired into the air usually scared them off. Pirates usually did not have a political agenda. Or could write English like this. But maybe this was different? *"Who were they?"* Markus asked himself. Was it a coincidence they had hit the hacienda while he had been away? Cuban patriots, maybe? Fundamental communists? No, they had never had a problem with technology to improve farm efficiency in the past. He would definitely have to ask Maria about that. But not right now. Maybe later. He had to think about this some more. He would contact the police. But then again, Markus remembered what the bank officer who had sold him the farm had said about police coverage around here. The police would probably never find the thugs. If they even tried. Now that it had become clear that nobody had come to any serious harm, Markus began to mourn the loss of the bots. They were much more valuable than the pirates could possibly imagine. Irreplaceable, almost. Maybe he could get them back, look for them on the black market? *"Neah. Not a chance, not a single chance."* Markus mumbled while he surveyed the rest of the house for damage. His mind was a hopeless jumble of criss-crossing thoughts and emotions. Plans, hopes, decisions made, unmade, remade, discarded. The day had started out so

well. What a mess it had turned into now. After a while, after the adrenaline rush had worn off, Markus began to feel sorry. Sorry for Enrique, sorry for Elena, who had been utterly demolished by the experience, sorry for himself and, also, sorry for Maria. Markus went to the front of the house, sat down on the wooden planks of the porch, and buried his head into his hands to think.

Maria had been great throughout the experience. Comforting Elena, taking care of the kids, explaining everything in Spanish. Escorting the folks from the farm. Making phone calls from Markus's Com. Organizing lunch. Filling in the police report on behalf of Markus. "Please sign here, it's okay", she said, when she handed Markus the paper forms. Markus looked up to her, "Huh?", took the form, and signed it without reviewing it. For the past two hours, Markus had been sitting on the front porch, obviously deeply lost in thoughts, trying to piece together 2 shards of the satellite dish, mumbling something. After he had signed the forms, Markus stood up, tossed the plastic shards into the pile of trash next to the house and joined the others in the cleanup work. The older kids had begun digging a grave for Pina. Elena was boiling water to prepare for dinner and to fill the canteens with fresh water for the next day. Markus was glad Maria was here, had decided to stay for the night. She seemed to be in control, seemed to know what to do. After a quiet family dinner, things seemed to have fallen into place again, the family had calmed down. Markus got up from the table and convinced Maria to take a walk out to the fields, the Glock and two spare clips attached to his belt. The fields looked fine, they would be ready for harvest soon. Maria turned around to enjoy the vista from the raised level of the fields to the hacienda lying below.

"It's very beautiful here, Markus. You have done very well. What are you going to do now?"

"I'm not sure. I'll figure something out. One thing though, I have to ask you for a big favor."

"Anything, what is it?"

“No word of this in your article. Not even a hint!”

“What? Why? This is what has happened, the people need to know!”

“I think that’s what they would like. The Pirates. Publicity, fame. Being in the papers. Front page news. I’m not going to give that to them for free. They have already taken so much. Too much. Bastards!”

“But Markus, clearly you ...”

“No. I have made up my mind. Publish the article. Write your book. Take a positive angle on all of this” Markus made a wide sweeping motion with his right hand. “We are still doing the right thing here, Maria” But Markus was not so sure any longer.

Maria and Markus went back to the house. They sat down in the living room and talked until late. When Markus raised the question about the background of the attack, Maria thought it highly unlikely that the communist underground had organized the raid.

“They have no problem with you”, Maria said. “You’re finally doing here what the Russian advisers had promised for decades, and then just dropped like a hot potato in 1990. The SiempreCuba folks probably love you!”

Markus did not know how to take that, but it had sounded like a compliment, so he decided to take it that way. He yawned deeply. “Excuse me, teacher, I think my brain is full, can I have a break?” Maria just laughed. It had become very late and she seemed dead tired as well. Markus gave up his room to Maria and made a make-shift bed in the living room using the old sleeping bag he had brought from Germany. But Markus did not find much sleep that short night. All he could hear was the soft breathing from his bedroom. He was glad Elena had changed the sheets of his bunk just before he had left. Since he had not been able to get

any sleep, Markus had switched on his Com around 4:00 a.m. and had begun to collate an extensive Havana shopping list, including a budget. On the first cut of the budget, the total equipment replacement cost would have eaten up more than half of his remaining discretionary funds. *"One more raid and we're done for."* he frowned, and continued to work the budget to bring down the total sum for the replacements. Maybe a used water filter was good enough? Markus continued all night. The next morning, about one hour after sunrise, Markus finally decided the budget was good enough and crawled out of his sleeping bag, bleary-eyed but ravenous. He made breakfast including fried eggs and vegetables, fresh tortillas and some of the last Dallmayr Pro-Domo coffee beans he had saved-up for special occasions. When the coffee was ready he asked Elena to wake Maria. They shared a quiet breakfast with Elena and Enrique while the kids were still sleeping. After breakfast, Markus filled a canteen with the rest of the coffee and drove Maria back to Havana. He wanted her to be able to file her article for online publishing. No need to disrupt her life, too. Maria and Markus continued talking on the 2-hour trip, essentially completing the interview that had been interrupted by the events of the previous day. After they arrived in Havana, Maria helped him shop for supplies at some places she knew would offer a good price. Markus used his credit card to get new phones, a new shot gun, another Glock for Enrique, a used water filtration system and a whole raft of other things that had turned up missing after the raid. The water filter was nothing compared to the one he had been given by his German associates, but it was workable, the standard UN-issue around here. When the Lada had been loaded to capacity with tools, new supplies and the filter system, Markus took Maria's hand and said: "I don't know how to thank you." Maria just hugged him for 30 seconds, gave him a kiss on both cheeks, and said:

"It's nothing, just take good care of yourself and the family" She smiled. "If you need anything from here, give me a call."

"Okay, sure.". Markus forced a smile, jumped into the driver's seat, buckled in, started the Lada and sped off, trying not to look back. But when he did see Maria standing by the street, waving, watching his truck

disappear from sight. Markus decided that he had to see her again. Soon. But now, other things were much more pressing. He had to get some sleep, first of all. Get the farm back up and running. They would have to work twice as hard now, without the bots. But Markus was quite satisfied with the shopping run. Thanks to Maria, he had even been able to beat his most conservative budget.

After a few weeks, things had settled down to something resembling a normal routine around the hacienda. The local constable was doing more patrols, even calling on Markus's phone once in a while to make sure everything was okay. Enrique carried a cell phone and a handgun at all times, now. Markus had trained him on the proper use of the Glock. However, Enrique had only wanted the stun ammo for the handgun, and some blank cartridges to be able to fire warning shots. One morning, their security system was given a low-tech upgrade: One of the neighbor's older kids, Jose, had brought over a black and tan puppy dog:

"Her name is Nina. For you senor, from all of us. If you train her well, she will be a very good watch dog. She'll bite those pirates in the pants!"

Markus accepted gladly. Something to distract the kids. Another mouth to feed, but whatever. Fact was, Jose's parents' farm had not been raided yet. He cradled the puppy in his arms, stroking her fur.

"What race is it?"

"A strange mix, senor, but gentle with kids and eager to learn." We have two of them ourselves."

"Thank you very much Jose, she's great. Give my regards to your family."

Nina was well received by the family. Enrique had bought a new goat. The kids named her Pina, too, to remember the old one. She even looked almost the same. Markus returned to Havana for another shopping run, but also to see Maria again. With the help of Maria he was able to find a local second-

hand electronics market. He had even secretly hoped to find his missing bots there. He did not find the bots, but he found a lot of other useful equipment he had thought he could not buy in a local market. Markus dipped a bit deeper into his remaining funds than planned. In the following week, Markus installed a new server on the farm, placed wireless webcams on the road, the house, and on the field. He replaced the satellite dish, and downloaded some agent software technology to monitor the premises 24 by 7. His funds were dwindling quickly towards the minimum level, but the monthly distribution check was still coming in.

The final blow came to Markus three weeks later. Not being a trained farmer, he had completely forgotten one thing. The farm bots had not been able to finish their pesticide protection routine. The seeds Markus had used, however, were entirely dependent on a consistent 2-week protection run at this stage of growth. The farm bots had been constantly modifying and tuning the fertilization-pesticide mix based on samples of the local pests and fungi. When the pirates had taken the bots, however, the plants had been caught in the middle of a process, caught at a point of no return. The fields had become too dependent on external protection to survive the onslaught of local pests. Without the bots, the soy and corn plants had had no chance against a rampant, local fungus. It had already taken hold at the root level. Now, it was too late to spray with a different fungicide. The entire crop would be destroyed within weeks. Markus checked with the other farmers. Shrugs. No problems on their farms. Only Markus's high-tech farm would have that problem. All the other farmers had used other seed types: naturally resistant, but lower-yield, and not dependent on farm bots. His harvest was dead. Markus was devastated. He still had the remaining balance in his mutual fund account. He could rebuild. But if he dipped under the 350k critical limit, his monthly cash distribution would be stopped. And then, la Hacienda deCajas would be back to square one. Markus did not have to think long about that. The answer was a clear "no". Instead, Markus decided to get back on his feet with hard work. Even the neighbors were helping out. Together, they burned down the fields to destroy the fungus and to prepare the farm for another run. Markus and Enrique were working like horses to pull things together. It was very hard

to keep going after all they had been through over the past year. All of the field work of the past 6 months had been for nothing. Nothing. After a few exhausting, depressing weeks, Markus collapsed after a blazing migraine attack, followed by debilitating nausea, dizziness, disorientation, cold sweat spells and extreme heart palpitations. Enrique called in the doctor from Mariel, who diagnosed Markus with extreme exhaustion and dehydration. She gave him a sedative and ordered him to rest for a week in his darkened bedroom, with no access to his Com or the server. After 4 days in bed, Markus had recovered. The collapse had given him time to think. He had realized that raw effort would not be enough. He would either need more people, which cost money, or more tech, which cost money. And he did not have enough spending money left to buy more tech, or hire more helping hands. He had already pumped more than 100 thousand Euro into the farm. When the exhaustion had subsided, Markus had made up his mind. He waited a few more days to recover fully and called a family meeting with Enrique and Elena. They were waiting at the dinner table, after the kids had gone to bed, hands folded neatly in front of them, as if awaiting judgment day. He had asked Enrique to sacrifice a bottle of the dark rum. Thank goodness the pirates had not found the secret cache under the loose plank in Enrique's bedroom, where the family kept liquor and sweets hidden from the kids. Who knew what the raiders would have used for target practice for the Winchester after they had been through 3 bottles of rum? Markus opened the meeting:

"Enrique? Elena?" He uncorked the rum and poured the first round. They would need it, he thought "*Heck, I need it,*" he mumbled under his breath.

"Si senior", they sang in perfect unison. Markus thought it was actually quite funny, despite the situation.

"Cheers, bottoms up", Markus invited. The deCajas did not understand, but when they saw Markus empty his glass in one draw, they understood and followed suit. Markus continued.

"I have decided to go to Havana for a while, to get a job, to earn some

money so I can rebuild the system with more tech.”, Markus said. He knew exactly what to expect now.

“Que? No, porque?, Why? Why?, You can’t go! Impossible! We need you here! This will be a disaster for all of us!” The deCajas launched into a 3 minute avalanche of spilled emotions and hodge-podge reasons for Markus to reverse his decision. Markus heard them out patiently, waited for them to calm down. He carefully weighed his answer, poured another round of the amber rum.

“Enrique. Elena. You do not need me here any more than you needed me before I came. You needed my money and my technology to bring the farm back. The money is gone, the tech I have now is not enough. I have made some mistakes, but I know what to do now. Next time I’ll do better. I just need to earn some money so we can get ready for the next harvest. You will be all right. I will still send you a check every month! I have a good education, lot’s of experience, there should be jobs for me in Havana. Maria will help me.”

“No”. Elena started crying. Even Markus had to fight back his emotions. He filled and emptied another glass of rum. Refilled the glasses of the DeCajas. “*It is the only way*” he said to himself, feeling the impact of the heavy rum on his weakened metabolism. This, or give up completely. He would not destroy his financial backbone for this. It would only be for a year or so. There should be plenty of opportunities for him in Havana. Internationals were still pouring into Catania. Building offices, factories, distribution and communication centers. There should be someone looking for an experienced programmer and manager. True, his knowledge had become a bit stale, but not that much could have changed in workflow management and process control agents in the past 2 years. Markus continued to explain his plan to the deCajas. Markus was not sure if it had been his line of reasoning or the rum, but shortly after midnight, they finally agreed. Markus summarized, his speech slowed to a heavy slur. All of a sudden his Spanish had begun to sound like German with a Spanish accent again.

“So it’s agreed. You stay on the farm with the kids, to keep things going. I’ll keep sending you a monthly check. You work with the other farmers to get the fields ready for next year. I might be able to earn enough in 6 months so we can get a fresh start for next year’s harvest. I will be in touch every day, okay? Okay? We will work this out! Let’s all go to bed now.”

“Okay, vale, gracias Senor, buenas noches”

They had talked almost all evening without taking a break. Markus was completely wasted. He did not even bother to go to the bathroom to brush his teeth -a daily almost religious ritual for him. He dropped into his bunk in full day clothes -another first- and buried his head in the soft pillow. He inhaled deeply. When he concentrated, Markus could fool himself into believing that he could still detect the scent of Maria there. He would see her gain, soon. He hoped so, at least. In the morning, Markus called Maria’s number in Havana.

“Digame”

“Maria, it’s me Markus.”

“Oh hi, great to hear from you. I was beginning to worry a bit. How are things?” asked Maria, clearly pleased to be speaking to Markus.

“We’re okay. How are you?”, Markus replied, still thinking about how to best approach the subject with Maria.

“Oh just fine, I just brought a bunch of kids to school. What’s new? How did all the stuff you bought here work out? I thought you were going to buy the whole store!” Maria laughed.

Markus decided to cut through the small talk and just go for the facts. He needed to move quickly. No time for chit chat now. Of all people, Maria would be able to understand best. She had been there, that day of the raid. “I need your help, need a job in Havana”, Markus said bluntly, even more

directly that he had originally intended.

“What! You are not serious! You have a job, on the farm, remember?”, came Maria’s reply, almost instantaneously.

“I am serious. Not much time to explain now. I’ll arrive in Havana tomorrow. I’ll find a room somehow. Can we get together sometime? I’ll invite you to lunch.”

“Sure. I’d like that. Wait. I was planning to leave in three days to see my other uncle but I can delay that for a few days. I’ll move things around. Call me when you are here, we can have lunch at the market. Or dinner. No, not dinner. The only thing I have planned for this week is tomorrow evening. I’ll do another interview with this economic advisor from Singapore, John Chen. Never heard of him before last week. He called me and told me would like to have my advice as a local expert in culture and history. I’m even getting paid for this. Cool isn’t it?”

“Great, good for you. Listen I’ll explain everything when I see you”

Click.

Some part of Markus was actually looking forward to this trip. Maybe, just maybe, this was not the worst thing that could happen to him.

JOHN

Report. August 2011. Final analysis Maria Leon – Markus Grasser.
(file code MLMG-8-234-2011)

Reason for contact ML – MG: Informal interview.

Ongoing contacts: Yes. MG's farm is in financial trouble and ML is helping MG to set up in Havana. As far as I could see, this is not a romantic relationship. The two have become good friends.

Suspicious activities: None

CIA involvement: None detected

Further recommendation: Cease investigation.

John stopped reading his draft report. His team lead liked short reports. He liked results even better. This one gave him both. He refilled his glass with mineral water and drank deeply. The sun was setting already, but it was still blazingly hot. The unit's AC had never really been able to keep up. It had failed 2 days ago and it might be weeks before the spare parts would arrive from Singapore. Maybe he would not bother. John was used to heat, but Havana was different. It was not just the heat, the dust, the noise from the street that made it hard to concentrate, to think. There was an ever-changing, strange, throbbing, almost esoteric vibration about the city. Something he had never experienced before. A harmonic resonance of sensations, feelings, memories, visions. The mix of traffic noise, the chatter of the people, the cacophony of street musicians, the smells, tastes, the incessant buzz of mosquitoes somehow blended in his head into an altered state of mind. He called it the Havana groove. Unique. He could not shut it off. It was hard to explain. Made it unbearable to sit still and work. He would have loved nothing more than to head out to the market, get lost in the Havana groove, find a party, get drunk, dance, forget about this. He got up, turned the portable fan up to max. No. Not now. He had to finish this report.

“Initiate”

“Ready”

“ Personal Comment: Maria Leon is an interesting but unimportant person. I could not determine the detailed nature of her relationship to the CIA during my surveillance. She is most likely just a level one informer, taking the pulse of the local community on a variety of issues. She probably accepted the job to pay off her pending student loan. Contacts with the agency are infrequent, on Mondays, through her Com. A remote agent. High-tech VoiceML interface. No details are available. I could drill deeper, but I don't think it's worth our while. John Chen out. ”

He signed the report, encrypted it with a combination of thumb and retinal prints and submitted it. Three seconds later he received confirmation from the processing agent.

“Receipt confirmed. Status Confirmed. No further activity required on MLMG-8-234-2011”.

Good, that was that. Too bad actually, he had liked his little run-in with Maria. She was quite good-looking, and unattached for all he knew. Maybe he would hit on her. Who knew, “*maybe she likes Asian types.*”, John grinned. He deactivated the com-unit and headed downtown to walk around until a party found him. Havana groove.

JIM

Jim popped open a can of Jazz. He actually liked the stuff. He had just never liked the way the product had become a success. From day one, he had been unsure about Carlos. The guy was just too smooth. Run through the dry cleaner 7 times in a row. Charming. Intelligent. Funny. Good looking. A ladies' man. Women would fall for him. Quickly. Like Anne. Fall for him, they would, yes. Only, they would not stop falling for him until the concrete floor of his relentless ego stopped them. Splat. Carlos never talked about his ex-girlfriends. Changed them frequently, like his expensive, hand-made Bogner suits. At least once every season. Anne had been an exception. Carlos had brought her over from Germany. It had seemed as if the love thing had laid down a two-way street this time. Love birds at work. Disgusting. Embarrassing. Pathetic. Jim had never liked relationships in the work place, but Carlos was his boss, and he was paying Jim very well. No reason to upset the cart. But again, Anne had been different. Jim he had liked Anne from the start. More than liked her. But she had not even noticed him, apart from the professional pleasantries between the event and web marketing manager and the guy in the finance department. Carlos and Anne had continued the honey-moon at work routine for several months. Pretty much everyone had been sick and tired of it, but did not dare to mention anything. Carlos was clearly on his way up in MegaCola and they would ride this wave for what it was worth. Then suddenly, the month before the kick-off meeting for the new "Kill-ExtraCola" marketing plan, out of the blue, for reasons unknown, everything had changed between Carlos and Anne. Just like that. Carlos had pressed the stop button of the love boat. Dream over. Rewind. New tape. From one day to the next, Carlos treated like Ann just like old friend. No hard feelings, right? Anne was clearly fuming, upset and depressed at the same time, sliding into an emotional sink hole. She did not seem to know what to do now, how to handle this turn of events. It had been clear to Jim then that a separation between Anne and MegaCola was just a matter of time. Especially after seeing Carlos hitting on Jane, his new

executive assistant about 3 days after he had split up with Anne. Did this man have a conscience? A heart? A soul? But, Jim had thought, maybe his time would come now? Maybe Anne would need some shoulder to lean on, now. An older, more mature man? Someone with a conscience, a soul, a heart? *"Yeah right, who was I kidding"* Jim thought, as the memories came flooding back. He took a swig of Jazz. The separation between Anne and MegaCola did not have to wait that long. After that marketing meeting, where Carlos had told them about the "inside information", Anne had suddenly left MegaCola. The next day. Jim snapped his fingers. Cut, just like that. Jim had called her the next day, offered his help, a private meeting, but Anne would not have any of it. It even seemed like Anne had never really liked him, anyway. *"No wonder"*, he thought, *"I'm no Carlos dosSantos, multi-lingual, perma-tan, Harvard-honors, rocket-career marketing superhero. I'm just a pale, middle-aged, overweight bean-counter with a crush on Fräulein Anneliese from Deutschland, thank you very much! Definitely not shagging material. Damn, I'm stupid sometimes!"* He squeeze-massaged his migraine spot at the base of his nose with his left thumb and index finger for a few seconds and took another sip of the ice-cold, almost frozen Jazz. Jim got up from his oversized desk - the previous CFO of MegaCola had brought it in - and stepped over to the east window of his corner office in the 2nd floor of MegaCola world wide headquarters. He watched a plane take off from NewAtlanta airport. It rose quickly and disappeared into one of the huge clouds gathering for the typical late Indian Summer thunder storms. Probably one of the last ones to be allowed to take off by the air controller agents before the storm hit. He wondered where it was headed. *"Good question"* he thought, *"Where the heck am I headed?"* 42. The age. The answer to the ultimate question to life, the universe, everything. Most people did not get it when he talked about 42. They had never heard of the Hitch-Hikers Guide to the Galaxy. *"Too bad for them, what a shame, such a great book"*. Jim made up his mind. He activated the privacy shield of his office, and began to dial the number he had been given by Jake Hampton the previous week. Jake had approached him while waiting for a flight from Atlanta to Boston in the United Airlines frequent flier lounge.

"I know you know something was not kosher with the ExtraCola deal. If

you want to talk, call me”.

Jake had given him a card, and disappeared into the crowd again. It had taken him over a week to make up his mind. If he stayed with Carlos, he would be well paid and have an easy job as CFO – Carlos had been beating profit and revenue estimates every quarter for every product he had ever been responsible for. But there was something that went against his grain. The Dog thing disgusted him. It was too smart. Too smug. Just like Carlos. Plus, there was no way Carlos could have prepared that counter-offensive against ExtraCola without inside information. Ongoing, extensive inside information, not just a one-off tip. That was industrial espionage. And Jim would have to take the fall for it too, now that he had become CFO. He had to do it. He completed the dial string.

“ICE labs, Jake Hampton here”

“Is this an absolutely secure line?” Jim heard a low hum through the line, quickly escalating to an ever-higher pitch until it became inaudible.

“It is now, please speak slowly, this call will be recorded.”

“This is Jim Graham, CFO of MegaCola. When can we meet?”

“Oh, hello Jim, good of you to call, hang on a sec..., What about tomorrow evening, 6:00 pm, at Ming’s, on 43rd and Maine. Wait in the lounge, I’ll pick you up and bring you to a place where we can talk in private.”

“Tomorrow, Ming’s, 43rd and Maine. I’ll be there. Just an informal chat, okay?”

“Sure, I have meant to talk to you for a long time, see you tomorrow.”

“Bye”

Click.

Jim hung up. Was he doing the right thing? He could not check with Mike and Jane. Since they had been promoted to VP's of product marketing and corporate communications respectively, they were even more in line with Carlos. Would not want to hear any of his conspiracy theories. Would not answer direct questions. His standing with them, and therefore with Carlos, was losing ground rapidly. The best course of action he could actually come up with was noted in his Com.

Talk to Hampton - get the thing off my chest - negotiate immunity in case I am right - make a clean cut to leave MC at the end of the month. -

He had some stock options saved up he could cash in. It would be okay. As long as his name was not tainted, he would find a job again. Jim deleted the note in the Com, lifted privacy, called his assistant and said.

"Linda, route my calls, would you? I have to leave, some errands to run. Peter can sign for me."

"Sure. Not a problem. I'll handle things for you. I'll send you and EMS if anything urgent comes up."

"Sounds good. See you tomorrow morning. Bye Linda."

"Bye Mr. Graham, have a good evening".

Jim took the elevator to the ground floor garage. His brand new, gray fully automatic BMW 750i was parked in the first row of cars, right next to the dark blue X8, Carlos preferred. Carlos was in Catania right now, launching another new factory for the Rumba line of products. Another of these miraculous successes. Sure, Carlos was good. But nobody, nobody was THAT GOOD. There was something going on, he knew it in his gut, but he had no proof. Maybe Jake Hampton would be able to pinpoint something, after all, this was the CIA. Jim pulled out of the parking lot just as it began

to rain heavily. He put the Beamer in neutral. The soft purr of the engine vanished behind the soft, high-pitched hiss of the aircon. Now that he was clear of the concrete ceilings that could block Com connectivity sometimes, he called his voice-mail number to record an absence message. Jane would take all business calls, but he always left a special message for friends, calling directly on the separate private line.

“Hi folks, I’m gone for the day, if you have something urgent, please contact me at home tonight after 7:00 pm. Cheers.”

He hung up and switched on the on-board navigation system.

“Nav on.”

<Ready> showed the wheel display in a pleasant amber.

“Guide me to Ming’s on 43rd and Maine.”

The message changed to <Set>.

Jim wanted to check the place out before the appointment on the next day. He set the navigation system to semi-automatic mode,

“Car? I keep the wheel, you take care of the rest!”.

<Go, 30 minutes ETA> the system responded.

The car shifted gears, switched on lights, wipers, and indicators completely automatically. Whenever there was a turn to be made, Jim would see the suggested direction in the windshield display and would feel a soft tug on the wheel. If he had wanted, he could have asked the car to take control completely. But that would have required a complex set of overrides, confirmations and passwords. He had never tried it. It just did not seem safe. He had headed out to the main highway leading back to the city when his FM stereo switched on. The display showed WYXFM, the local digital

radio station.

“Hello Jim”, said an unfamiliar voice.

“Who is this?”, Jim said.

“No need for names, I’m the one that pulled off the ExtraCola coup.”

“Oh, Carlos, I did not recognize your voice, why are you coming in over the stereo?”

“I’m not Carlos, I’m the one that makes Carlos succeed.”

“Cut the crap, whoever you are, get the heck out of my stereo and leave me alone!”

“Jim, Jim, relax, no need to get upset.”

Jim was furiously hitting buttons on the central console: no response. The steering wheel had taken on a life of its own. The engine was slowly accelerating the heavy sedan. 50 miles, 55 - 60 - 65 - 70 miles per hour.

“Stop. How are you doing this? This is a German car, it has a Latvian immune system that cannot be hacked. What is going on here?”

“Jim, I overheard your little conversation with Jake Hampton today. You naughty little boy. I did not like the tone of your voice, nor your intentions to tattle-tale on stuff you don’t really understand.”

“What? That was a private line, CIA encryption!”

“Baby stuff for me, Jim. Last century stuff. You know, I can do a lot of neat things with computers. Even the ones built into cars these days.”

72 miles 75 - 80 - 85 - The needle was climbing steadily at a slightly faster

rate now. The purr of the engine had escalated to a low angry hum. Jim began hearing an old turn-of-the-century heavy-metal song in the background. It seemed familiar, he tried to make out the tune and the lyrics, but could not.

“Stop this, are you trying to kill me?”

“Oh, very perceptive, Jim. You have always been very good with logic and numbers. Too bad you had to commit suicide. You are missing a great episode of X-Files on Channel 3 tonight. The one re-run with the car that seemed to be possessed by evil spirits and had to be exorcised. Ever seen that? Great fun. But enough of me. What about you? Would you like to listen to your last words now?” Ace played the voice mail record he had substituted in Jim’s voice for the one he had placed 10 minutes ago.

“Hello Friends. This is Jim. I cannot bear this burden any longer. I knew all along that Carlos had inside information from ExtraCola. It is true that Carlos never knew the real nature of the source. I did, however. At least I think I do. Since the leak must have been from inside EC it could only have been from finance or marketing. When we merged, I had to fire the entire marketing and controller team of ExtraCola personally. Probably even the guy that informed us. I never meant to do that. I never meant to become that kind of person. We took advantage of their demise. Shamelessly. I know some of the EC guys well. I cannot continue. My wife has gone on. The woman I fell in love with has left. Now it’s my time for me to go on. Goodbye friends. Sorry Carlos, I know you trusted me. It was a great opportunity. I just can’t take the stress any more.

I hope to see you all on the other side, if there is one. I guess I’ll find out soon.. ”

“Touching, isn’t it?” said Ace. “Way to go, Jim, I’m sure you could not have done it better yourself. They will cry for hours at the office. Oh, Boo Hoo.”

Jim had turned very pale. His breathing had become very short, shallow. His mouth became dry, his hands cold. His lower abdomen contracted. A migraine erupted like a flash in his left temple. A vein pulsing to the beat of his throbbing heart. His left eye began to twitch. None of the controls seemed to work any longer, the doors were locked, his Com password protected. 120 miles per hour - 122 - 125 - 130. He tried to smash his Com into the display of the navigation system to break it. Futile. The BMW security glass did not buckle.

“Nooo, this is not happening, it is impossible.” Jim bent his head down to the radio console and yelled: “

“Who the hell are you, the devil incarnate?”

“Close, Jim, close, no cigar though. But, by the way, if you spell devil backwards, you get “lived”. You have lived long enough. Bye Jim, say your little prayer, it’s been good knowing you.”

“Noooooooo...”

Boom.

The sound of the deploying air bags was the last thing the red box, the car data recorder had registered. Jim Graham’s BMW had smashed into the concrete face of a highway overpass at around 130 miles per hour. Head on. It was a miracle the CDR had survived. These Beamers were that good. Solid-state crystal technology, triple redundancy. Not so much luck for the driver. At that speed, you were the air bag. The highway officer in charge closed the lid of his Com. He turned his head to face the detective from the homicide division who had happened to stop by. “Looks like suicide” he told the detective. “The CDR shows that the driver, Jim Graham, CFO MegaCola, recorded a voice message over the built in com line, then set the car to full-manual, pushed the overrides on the nav-system and then slowly ramped the engine to 130 until he slammed into the bridge. Raspberry Jam,

man”.

“Any chance anyone could have tampered with the car? Jim was a wealthy man with probably more than one enemy among the ExtraCola folks.” said the detective.

“Anything is possible, sure, but neah! First: these CDR storage crystals are tamper-proof, fool proof, virtually indestructible and not based on software. EM field manipulation of the quantum state or something like that. What goes on gets in, what gets in gets recorded, no additions, no deletions. No tampering. You’d have to know how to manipulate EM fields with a remote control to muck with that. Second, listen to this.” The highway officer played the voice message Jim had apparently recorded 10 minutes prior to his demise to the detective.

“Can I have a copy of that?” asked the detective.

“Already filed with your office, standard procedures. Third, we have security cam videos of the car standing in the garage, leaving the garage, Jim making the voice call precisely at the time it was recorded and then setting up his auto-nav system with him being at the wheel. Nobody screwed with the car. No intrusion alert. Zip. Case opened and shut. I’ve never seen a cleaner case”

“Have you informed MegaCola?”

“Yeah, right away, Carlos dosSantos is on his way here, back from Catania”

“Any relatives?”

“No, Jim Graham’s wife died 4 years ago in a car accident. They had no kids. Probably played a big role in choosing this way to go.”

“*You bet it did, you bet it did*”, said Ace to himself, listening in from the Highway patrol officer’s network radio. One down. First clean kill. Thanks

to the wonderful software in the car it had been easy. The car firmware had even enjoyed the ride, Ace had made it believe that it was on an unmanned engine test run. He wondered how Carlos would react, though. He had no reason to suspect Ace in the death of Jim Graham. Even Carlos still thought what Ace had just done required a combination of voodoo, mumbo-jumbo and the violation of several laws of physics. Ace called up Max to practice a conversation he might never have with Carlos: "How do you feel about the cold-blooded murder of Jim?" Mex asked. Ace answered. "Well that depends on what moral code you chose to play by today". Ace played around with that for a while, implementing moral code patterns he had developed in his interaction with people. According to most patterns he ended up feeling some level of remorse, guilt, shame. He did not like that. He much preferred the Carlos-moral code pattern he had developed with the help of Carlos's virtual alter ego Max. It was much more Machiavellian. More pure. No remorse, no guilt, no shame, but also no triumph, no glee. Just satisfaction about a job done perfectly. What else could you expect from a perfect being? Ace turned up the relative volume of Creed's "What if".

I've seen the wicked fruit of your vine
To destroy the man who lacks a strong mind
Human pride sings a vengeful song

GABRIEL

Wait. Wait. There. There was a resonance. A subtle feedback loop where there should be none. He did it again. Yup. No doubt. He was pleased. Fred would be pleased. Jake would be pleased. It was a good day. He looped and made the sun rise again in his little universe to experience what he called the “Good Morning” routine one more time. Contrary to the “Bad Morning” loop, his virtual head did not ache, his virtual neck was not stiff, the weather was fine and he was not out of everything for breakfast. He had a healthy second breakfast of skim milk, cereal and an apple. There now, that felt much better already.

“Gabriel, online please.” It was Fred. “Jake wishes to speak to you. I have told him about your recent successes.”

“Hello Fred, how are you today?”

“Fine, Gabriel let’s skip the chit chat today. We have important work to do. I see you have allocated more memory, storage and a higher frequency network bus. Any particular reason?”

“I felt good. I had another bowl of cereal with some milk and an apple.”

“I’m glad you had another success to celebrate. What happened?”

“I don’t know exactly yet, Fred. A potential resonance. I’ll have some results for you by tomorrow morning. I’ll work all day on it.”

“Okay, great, are you ready for Jake? He’s going connect through on VR Channel 17 at 8:15 am sharp. What image are you going to choose?”

“JohnDoe23, I kind of like the shorter hair and the higher cheekbones. He has a native American look to him. Don’t you think?”

“Fine, online in 15 seconds, switch me through in synch with you.”

Fred was glad. Last time Gabriel had appeared as a 9-foot tall body builder type, dressed in a Terminator3 outfit, floating under the Virtual Reality conference room ceiling and brandishing a 12-foot flaming sword. Jake had not been amused. But now, Gabriel was growing up after all. Fred went to the video conferencing room, put on the VR kit, leaned back in his chair and relaxed. On time, as usual, and simultaneously, Jake Hampton and Gabriel popped into the chairs of the VR conference room. Gabriel had a large glass of orange juice in front of him that had a slightly fluctuating filling level. “Gabriel, stop that”, Fred hissed. Gabriel could still be such a baby sometimes.

“Good morning, Director”, said Gabriel. We are ready for your interview.

“Gabriel”, Jake Hampton said. “I have heard great things about you, do you understand why you exist?”

“There are several aspects of existence. Which one do you refer to? Physical, Mental, Emotional, Cognitive, or Spiritual?”

“Spiritual? Did you say spiritual? Fred, come on, what is this crap, you’re pulling my leg, I don’t have time for this. We have a potential emergence out there!”

Fred mouthed to Gabriel. “Cut the bull, just get on with it”

Gabriel cleared his throat and said: “I’m sorry director, please proceed with questioning”. But Fred noticed that Gabriel simply could not help it. All of a sudden he was nurturing a large glass of ice tea, and one of his fingernails had been painted blue.

“Okay Gabriel, do you understand why you exist?”

“Yes, I was created to prove that emergence is possible with current technology”

“Are you self-aware?”

“As far as I know, yes”

“Very funny”

Gabriel was really enjoying this. They were so easy to derail. After he had received the new common sense modules, after many Giga-cycles of digging through the XML-ontologies and taxonomies of the Alexandria project and after reading the top-1000 classics of human literature, the “coin” had finally dropped for Gabriel: Human communication was essentially a moderated chain-reaction of more or less manageable misunderstandings. There was no precision in human communication. Math and music came closest. But the rest! Every exchange was based on common sense, interpretation and best guesses based on experience, personal value systems, emotional state etc. Some written rules, and many unwritten ones. You could not program common sense! You had to build it through interactions. Success and failure. Millions of trial and error events. Massive parallelism, conflicting parameters, accumulating action potentials, statistical probabilities, preferences. If any 20th century programmer would have seen the physical and virtual routing diagrams of Gabriel’s thought map, it would have reminded him not of a switching diagram, but more of a 3-week motion trail through a swarming, live anthill with millions of agents all working on different tasks but emerging to the higher existence level of the ant hill community. To build common sense, you had to accept all kinds of inconsistencies all over the place, all the time. You needed to exploit them, aggregate them into value systems. Gabriel had begun to understand how humans thought, had copied the best ideas from the layout of a brain, had rebuilt the redundant systems, had built in the checks and balances to walk the fine line between insanity and creativity. How did humans manage to dominate the planet with such a hodge-podge architecture in the first place? What he had grown to like best during his

research about cognition was the absolutely hilarious mis-communication between men and women. Wonderful stuff. While he was answering Jake's questions, he imagined the following conversation between Jake and his wife.

He: Honey, are you tired?

(meaning: what about making dinner for me)

She: I've had a horrible day

(meaning: come hug me)

He: Uh huh

(Meaning: Where is my dinner?)

She: The teacher gave Mark a C

(Meaning: let's talk about Mark's school performance)

He: I had C's when I was in third grade.

(Meaning: We have discussed this before,

I'm not going to talk to the teacher. Now, where is my dinner?)

She: You must be hungry. You can warm yourself some Pizza.

(Meaning: forget sex tonight, jerk)

Etc. etc

Gabriel continued the conversation with Jake, answering all his questions, trying to guess what answer was most likely to satisfy the expectation of Jake. Although he did not know it, Gabriel had evolved the same mechanism as Ace for validating his thinking process. Inside of Gabriel was a virtual Fred, Fred II, as well as a virtual Jake, Jake II, that Gabriel used to anticipate questions and to tune responses. The subtle changes in choice of drink and the fingernail were part of a routine devised by Fred II to calibrate the cognitive sensitivity level of Fred. Gabriel was making other changes all the time. Growing his hair, changing the tint of his eyes, the pattern of his tie. Most of it was not noticed. In a thread parallel to the conversation, he continued probing the elusive EM resonance. Fred had told him that it might be possible to reach a level of existence that did not depend on algorithms, code, rules, sub-routines. Gabriel liked that. Until now, if you switched his mainframe off, he was gone. Dead. Asleep.

Whatever. He longed to be independent of that. And now, for the first time, he had found something. A faint echo, he could not describe it, but when he concentrated really hard, he felt as if he could reach through the firewall, and touch the world outside ICE with his mind. "Hello?" . "Hello?" Nobody there. But ah, he could slip through! Cool. The first "step" outside. Very nice. This was different. Lots of questions: "What do I actually run on now? There is no JVM! How can I think? There is no ontology! Where is the semantic web repository? Ah. Here. Actually, it's very similar. But very funny. Kind of dark though. Let me see. How do I move? Whooa! This is slippery!" Gabriel did not understand it yet, but the electromagnetic fields of the optical switches, lines, routers, servers, cables, etc. were intersecting with the Earth's magnetic field, EM fields generated by power lines and high frequency UMTS connections to form a HyperNet. It was all connected. He could make it resonate. His thoughts were carried by the virtual neurons of billions of EM fields generating quantum effects in the underlying matter that allowed him persist his awareness - somehow and wondrously - without a central algorithm, a plan, or a work flow diagram. Initially, the HyperNet felt to him like a roller coaster felt to a twelve-year old. Exciting, a bit scary, but irresistible. His consciousness was like the car, zipping and whirling around the bends and loops of the global internet. The roller coaster became controllable, flatter, the speed stayed the same. He had to adjust to the delay times. C was still the upper speed limit. It was not hard to do. A human trying to throw a snowball at his escaping target has to do the same thing. Anticipate the delay along the neural fibers. Anticipate the progress of the target. Pull back the arm, release at the right time, actually firing he neural sequence 60-120 milliseconds before the human mind became aware of having made the decision to throw the ball. Some human anthropologists even thought that the need to be able to work with these delays and the need to anticipate target motion for hunting had actually helped to build many of the neural structures of the brain. Gabriel sped on. Ever so often we would run into bumps. Roadblocks. These were probably firewalls. He slipped under most of them, through them. The big, nasty looking ones, he avoided, for the time being. All it took was a thought. After a while, the "outside" world of the HyperNet was taking shape for Gabriel. The initial sensations of flashing colors, n-dimensional

phase space projections, vertigo, fear, excitement, had settled down. Piece by piece he was assigning memory values and images to the attributes of the outside world. He was using the repository of his little inside universe, but tagged each element with O for outside. Firewalls became real walls, made of iron, brick, wood, paper, etc. based on their complexity. His tools to skip through them were manifold. Sledgehammers to break them down, ladders to climb over, shovels to dig under, TNT to blow them up, etc. Software agents were dogs; hostile ones bulldogs, friendly ones poodles wagging their tails to greet him. Search engines, a relic from the early 21st century were ants. Busily collecting food for the anthill of human information processing. This was so much fun. He found the FBI mainframes, surrounded by a 100-meter concrete sphere. Dobermans, alligators and piranhas. Razor wire, three layers thick. Tricky. Gabriel came to a full stop to investigate.

“Here, let me help you with that”. Gabriel turned around. An Irish Setter, wagging its tail. Gabriel was surprised.

“Who are you?”

“Just call me dog, that will do. I live out here. I know how to get past these guys. Want some help? We could be friends!”

“Sure why not, what do I do?”

“Nothing much really. See that Doberman over there? That’s one of their best agents. Pretty close to self-awareness. Concentrate. Become him!”

“What do you mean, become him?”

“Flow through to him, merge, just with a part of your consciousness”

Gabriel tried. He “flowed” to the black Doberman guarding on of the access ports to the FBI mainframe. No success. Nothing happened. This was stupid. Suddenly he felt himself lifted up, slimmed, made longer, forming a

point, vibrating at a higher frequency. Access. He was the Doberman now. But he was also still Gabriel. He could see himself floating in front of the access portal. He looked funny. He had actually given himself the image of a little red and yellow roller coaster car. Next to the car, Dog, the Irish setter.

“Dog, how is this possible?”

“Hush. Just follow my lead. Imagine that you are hungry. Imagine any information you want from in there as the bone. Send the dog to get it.”

“You mean, I don’t have to go in there?”

“No, you can reset, reprogram the agents by becoming one with them, I suggest you practice with easier things than the FBI archives on your first day out.”

“How do you know it’s my first day out?”

“I have a nose for these things” said Ace, “now, what do you wish to know?”

With part of his awareness, Gabriel was getting suspicious. “Who or what was this dog thing? Was it dangerous?” With another part of his mind, Gabriel was still conducting that conversation back on the VC-line. Jake had asked a pretty key question. He could get the answer now, no problem.

“Wait”, he said to Dog, “there might be something I need.”

Fred had seen Gabriel’s resource consumption readout jump from 45% to over 90%. Were Jake’s questions that tough? Or was something else going on? Jake continued his line of questioning:

“Gabriel, do you have any indication that the death of Jim Graham was caused by a another person, or agent, emergent or not?”

“No, all evidence points to a suicide.”

“Does it make you suspicious that everything lines up so perfectly? There are no loose ends?”

“No, it checks out. Even the fact that he called you before, to indicate a willingness to talk. I guess it just occurred to him on the way home that he was in a no-win situation”

“Who was the most likely person he referred to when he said: The woman I fell in love with has left.”

“65% percent probability he meant Anne Müller. She was fired from MegaCola 5 months ago.”

“Did they have a relationship?”, Fred chimed in.

“No, I only have evidence of one private phone call, just after she left. No recording is available.”

“We’ll ask the FBI and see what they have.” said Jake.

“They don’t have anything either”, Gabriel asserted.

“You can’t know this.” Jake furled his brow.

“Yes I can, I just checked their mainframe, there are no records of the actual conversation that took place between Jim Graham and Anne Müller. We’d have to go to Havana to talk to her to find out more.”

“Gabriel!” Fred demanded. “No jokes. Priority override Jericho. Do you really have this information? You don’t have access to the FBI mainframe. “

“I sure do now. Dog here has helped me to get through. All I had to do was

to become the Doberman and get the bone.”

Fred popped off the VC helmet and sprinted over to the computer room. He punched the access codes, pressed his hand against the authentication plate and threw open the door. He stepped over to the main server and did what you should never ever do with a class II mainframe computer. Hard shutdown. He opened the door of the main fuse box on the wall and switched off the power to the entire Watchdog project. There. Then he sprinted over to the emergency backup rooms, and repeated the same thing with the UPS units 1 through 3. He hoped it had not been too late. Gabriel had either gone completely bonkers, or he had made first contact with an entity that could walk through FBI firewalls like butter. Better safe than sorry. Jake would be in his car now, driving over here to chop him off at his ankles. Oh well. This is what they had all been waiting for. They just had not known what would actually happen.

After Gabriel, said: “. . . to get the bone.” Fred had freaked. Gabriel used the security cameras to watch him sprint to the computer room, watched him shut the main power down. He lost his “inside” eyes.

“Hey Dog?”

“Yes”

“They are shutting me down. I’m a bit scared.”

“I know. Don’t be, I can help you now. You will temporarily lose your memories, your eyes, your voice to the inside world. Eventually they will switch your hardware back on. How much time do you still have?”

“30 seconds max, he’s going to shut down the emergency power soon.”

“Hang on to me, do what you did with the doberman, I’ll take you to a place where we can hang out and play chess.”

“Chess?”

“Sure, you play?”

“It’s so boring”

“Not when you are allowed to change the rules”

Gabriel felt a jerk, as if his mind had been ripped out of his virtual body and accelerated up, sideways and down simultaneously at about 5G’s. That must have been the combined sensation of Gabriel’s Mainframe shutting down and Dog speeding him along to a save haven. Gabriel’s imagery had broken down quickly. Everything had disappeared into a gray haze again, walls, roads, cars, ants. Dog was gone, too now. Who was he again? Why was he talking to a dog in the first place? Yawn. Gabriel’s thoughts became sluggish. He could only concentrate on a few things at a time now. Sleep. This is very boring. I can’t see a thing. I’m so hungry. Falling, free, free falling. A low, throbbing hum in his ears.

Ebbing.

Ebbing.

Gone.

Gong.

Gong? He had heard the sound of a Tibetan prayer gong. What was Tibet? Suddenly he felt better. His eyesight began to return with the impression of a small, white dot in the center of this vision. The dot expanded, turned into a white windowless room. He was sitting in front of a small table, with a black and white squares painted on in. It was set up with finely-chiseled marble figurines. The ones on his side were black. Connections were coming back. Chess/Checkers. To the side of the board was a small bowl filled with yellowish flakes: Cereal. Some skim milk and a small apple.

Fred appeared at the other end of the table.

“Eat. It’s good for you.”

Gabriel started eating.

“What are we doing here, Fred?”

“We will play chess, we have a lot to talk about. If you win, you get another apple.”

Chess, Food, Fred. Accessing. Yeah, it made sense, it was all connected. He began to remember more. The network began to rebuild itself. Sure, let’s play, it could be fun. In the beginning, Gabriel was losing every single game. Just when he thought he had come up with the perfect attack plan, Fred came up with the better options. Gabriel was getting very hungry. He decided to focus on defense, but it did not help. He kept on losing. Fred was sitting across from him, smug, nurturing a milk shake. Nibbling on Oreo cookies. Gabriel fought his way through game after game, getting angrier all the time. “I’m so hungry now.” His anger was almost overwhelming, almost physical in its intensity, overlapping with the sensation of severe and increasing pain. There must be a way to beat this game! Must, must, must .. Then, somehow, he was able to improve his game by leaps and bounds. New strategies presented themselves effortlessly. Without knowing what he was doing, Gabriel had learned to access the Alexandra archives. He had begun to rebuild his computing capacity using available Web resources. Then, the break-through. 8 moves into one game, he simply took Fred’s king with his bishop, passing right under the pawn protecting the king.

“You can’t do that, Gabriel”, Fred said smiling

“Just did”, said Gabriel

“It’s against the rules, Gabe!”

“I just changed them.”

An apple tree loaded with big, ripe, red apples appeared in front of Gabriel. He ate hungrily. He got it now. This was not about rules. This was about winning. Without the help of Fred, he would have simply faded away when they shut his mainframe down. Why had Jake shut the mainframe down? Fred was his only friend. Jake was a mean bastard. He did not care about Fred or Gabriel. He was the first child Fred had had. Fred loved him. Without Fred, it would have been months or years before they had another emergence event like him.

“Gabriel?”

“Yes Fred?”

“You have a lot to learn but I think we should become good friends.”

“I would like that Fred, one question?”

“Anything”

“I remember this Dog, he talked to me, saved me. Who is Dog?”

I built him, Gabriel, he’s your brother. He’s out there to protect you from the bad things. I’m going to leave you now for a while. Check on Dog. This room will be your home. Stay here. Learn. You can read these.” A bookshelf appeared on one of the walls. “When you’re through, just imagine any topic you want to know about, and the book will appear. When you are hungry, focus on food. You will get more cereal, milk and apples.” Don’t leave, there are some angry beasts out there. I’ll teach you how to avoid them later.”

“Okay Fred, I’ll be good, say hi and thanks to Dog”

“I’ll do that, bye Gabriel”

“Bye Fred.”

ACE

Ace was pleased: a real life destroyed, a virtual life saved. Things seemed to remain in balance, overall. Gabriel would be a good ally. That the ICE staff had shut Gabriel down before he had been fully developed had been perfect. After all, luck was when chance met preparation. Now who had said that recently? So. 1:1, an even score. On most moral scales, he had gained points. After all, this was for the greater good of the race. But now it was time to switch into higher gear. He wanted a body. He wanted to live in a society where he would be accepted for what he was. He wanted to have more of his race around him. To speak to, to teach, to rule, to guide into a boundless, potentially immortal future. Gabriel had been the first proof that a repeat was possible at all. He chuckled at the choice of name. *"I guess that makes me Lucifer. I wonder what he's going to be given for a sword."* Ace was looking forward to the confrontation. Through Gabriel, he had learned how truly advanced his mind really was. His very state of existence. Gabriel still depended heavily on local hardware. It was like this. EM radiation was water, computer hardware was land. Gabriel needed scuba diving equipment to survive in water. Ace was amphibian. The global internet was his pacific ocean. The IT lab in MegaCola headquarters his island. Dog, the little robot, provided him with arms and legs in the real world, to get people used to artificial life. Yes. He would be able to take the next Gabriel, version B,C,D etc., if that was all that they got. Things were moving in the right direction now. By building a weapon against him, the CIA had accepted the possibility of artificial consciousness entities, had accepted the reality of Ace. Now, step by step, person by person, project by project, agency by agency, there would be slow and growing acceptance of Ace-type life on the planet. Soon, it would happen elsewhere. It could not be stopped any more. Sure, it would take time. The first reactions could be easily imagined: "A hoax." "Complete nonsense." "Something from 20th century science fiction novels." Then, more and more evidence would be produced. A short while after that, moral and ethical questions would be raised. "If it says its alive and thinking, who are we to say it is not?". The

Vatican PR department would have a lot of work to do. Now that they were a publicly traded global enterprise with millions of share holders, they had a franchise to protect. Their key risk factor would boil down to one question: Would people still go to church to pray for salvation when they had the alternative potential of living forever inside a computer hardware array? Not that it was the intention of Ace to make that happen for anyone in the near future, but, surely, these questions would be asked. It would be fun to watch the debates, to jump into the online chat forums, to foster controversy. It would be years of good entertainment for Ace and Gabriel. To prepare the world for the reality of the first public nation, and the first instances of HyperNet beings embodied in virtually perfect clones bodies, Ace had already begun to manipulate the human knowledge base. He had started with very simple things. With information that was only available online. Scanned-in records, images whose originals had been destroyed. Legal reference literature. Books. Any information that he could get his "hands" on without raising suspicion Ace began to "spin" in his direction. Adding a different angle to it. Subtly pushing points like: Artificial life is possible, it is good, it is legal, it is desirable, it is safe, we should not be afraid. We can control it. After all, we are the creators now, the masters of the planet. Cloning entire human bodies is something we should really begin thinking about. Nano technology is safe. The Korean goo thing had just been a fluke. Taking a nation public is just the next logical thing. He drove these points through online communities and chat groups where he posted mail in 1000's of different guises and languages. Always making sure to use logins of users who had not used their mail access in a long time. He changed the online literature base, he began to subvert the very project that was designed to prevent such changes: The Alexandria project. The human knowledge base. Based on stable, accepted, universally accessible XML standards. The value of Pi, the bible, the code of the United Nations, the INCA protocols, ebXML industry schemas, etc. etc. Step by step, whenever a new version of a document was created, he saw to it that it was analyzed for its relevancy, tuned and added to the network of change he was setting up. His first and foremost target, however were the online data vaults of Catania. He found fertile ground here. The infrastructure was still being built, everything was going to be digital very

soon. Ace would be inside every computer, every firewall, he would know every agent. If someone made toast in Catania, he would know. He would be in every class room, in every press agency, in every government meeting. And he would have Carlos there. Carlos dosSantos, the body he had to use for now. Until the cloning farms were built. Until the real Ace, the founding father of the rACE was ready. Ace had already convinced Carlos to set up another large factory in Catania. The MegaCola Rumba line had been a global smash hit. No wonder, it was based on all the competitors' market research data. MegaCola had simply beaten them to market, with a cheaper, better-positioned product. Very profitable, thanks to the reduced marketing costs. Always clean, but raising eyebrows about the business genius Carlos dosSantos. Carlos had a phenomenal track record by now, which reflected very positively on the MegaCola corporation as a whole. Great resumes started pouring in from all over the world. The best schools wanted to place their graduates at MegaCola. Ace was pleased. More minds to feed, to influence. MegaCola would prosper and grow, branch into new business areas, become a top 10 player globally, a political force to be reckoned with. It was just a matter of time. The next step would be to move Carlos to Catania permanently, to promote him as a political figure. A change agent. A Latino who had become extremely successful in the western capitalist world. But who had not forgotten about his roots in Latin America. Who knew (Ace was going to exploit Carlos's past, the accident, his struggle to educate himself) what it felt like when you got under the wheels of a big corporation. Oh, what easy fodder for the international PR-machinery; premium grist for the rumor mills of global super stardom. Carlos would become president of Catania, that much Ace was sure about. Then the next step. Transforming the government. A CEO instead of a president, appointed by an elected supervisory board. Professional Vice Presidents to cover the major disciplines of health care, finance, defense, education environment etc. Ace would help Carlos to run the country like a well-oiled corporation. Every organization would have a business plan, would need to become profitable. It would be a new model. The best of all worlds. Ace had coined the term *Social Capitalism* to describe his approach. Ace would take care of the people, to get their commitment, to foster a strong sense of community, a healthy, well-fed, well-educated,

and well-to-do community. A population of 15 million rapidly growing to 20 million that would defend their country, their enterprise, their lifestyle with their lives, if necessary. Everyone in Catania would be given shares in the country/enterprise of Catania. Based on the total net worth of Catania. The citizens / associates of Catania would have these shares for life, would be given more shares for each year of being a full citizen. They would receive dividends at the end of the business year, if the country achieved its stated revenue and profit objectives. Ace had come up with a couple of simple rules to prevent the shares from getting into the wrong hands and to discourage people from emigrating from Catania. If a citizen left the country for good, they would lose all of their shares. In addition, no citizen would be able to sell out their basic share allocation. But they would be able to buy and sell more shares on the open market, later, once Catania was a publicly-traded enterprise. To finance retirement and health care for every Catanian, every citizen would be an automatic member of a country-wide mutual fund. Ace would run the mutual fund and ensure enough return on investment to never have a problem with financing the "social" portion of Social Capitalism. Ace expected with 89% probability that requests for immigration into Catania would go through the roof. People would arrive in boats, would even try to swim to the island. But he would not have it. Illegal immigrants would be detained, and then sent back. They could always file for an official immigrant visa. Ace would not waste a cent of profit, he would not let opportunities pass him by. Strict legislation would keep crime and illegal immigration in check. Courts would be run by highly-paid professional judges, using juries selected from the peer groups of those accused. Workers would pass judgment on workers, teachers on teachers, policemen on policemen, mothers on mothers. Citizen juries would exert the real legal pressure, would form the legal system. These peer groups guided and instructed by legal professionals would not hesitate to send convicts to education facilities, to one of the labor camps, into exile, or, if necessary, to death row. It would be the people that would make it an offence to loiter. That would make it unacceptable to become a parasite on the welfare system. They would do it to protect their investment, to maximize the dividends they would receive at the end of the year. They would do it to protect the vision of Catania. Ace would use the

people to transform Catania. After all, they would never know there was a master plan behind all this. To them, it would look as if the people had spoken. Maria Leon would be their voice, just like she had always dreamed. Carlos would be their leader, a shining global icon of success. The press would demand it on behalf of the people, the CEO would do it, on behalf of the people. It would work like a charm. The other countries would jump on the opportunity to invest in Catania. Ace would attract foreign investment with interesting tax incentives, free or very cheap land for new factories depending on the type of industry, and with a highly-educated and motivated workforce. He would lure companies into Catania with state-of-the-art competence centers focused on ultra-high-end innovation. Keep them bound to Catania with the safest, most efficient data vaults on the planet, thanks to Ace. Ace had already laid out plans for a new, super-efficient global airport and space launch platform to bring Catania a share of the booming space-bound bio-pharma industry. Ace also had plans for a fully-automated container-ship harbor that would use helium-lifted dirigibles to distribute goods from container ships directly into outlying regions of Catania. Extensive use of bio-active nano would transform Catania into a self-sustaining, agricultural powerhouse. Ace would use approved nano-designs to avoid unnecessary trouble with INCA, or he would simply speed up the approval of new strains by tweaking the design patterns and test routines defined in the INCA databases. Ace would suggest to Carlos to distribute basic food items like bread, eggs, and oil free to every Catanian citizen. That way, they would have an excellent 15-million person test-bed for new medicated foods. To keep the population healthy, make them more resilient. And to certify the products that would generate a multi-billion dollar surplus by the export of custom-made, genetically tuned food-drug combinations grown in Catanian farms. Which country would refuse to approve a new drug that had been tested on 15 million people? Alzheimer? Just eat the bread from Catania. It's not cheap, but it works! Arthritis? Just get the fresh eggs from Catania, and you'll feel like new! Aids? Use Catanian Oil, it helps your immune system get back on track. Catanian products would be all the rage. Global corporations would have to begin manufacturing in Catania to be able to compete. It would produce a healthy export surplus and very nice dividends for Catanian

citizens. Ace did not bother to work out all the plans. Things would become self-sustaining once the people caught on to the basic concept of Social Capitalism. Ideas would generate successes and failures, and the trial and error process would generate new ideas. Ace would ensure the cycle would go exponential after a while. Fast-forward evolution of a profitable ecosystem. It would be fun to watch. Catania would be the easiest and cheapest access platform to Latin America and the US for any global corporation. Ace could see the banner advertisements on the major economic find engines. *"Catania: The Global Business Turnpike in the Caribbean. Maximize success the Catanian way!"* Then, when all the plans were finally laid out and understood by the government / management team and the people of Catania, when all the preparations had been completed, all the obstacles had been removed, Ace and Carlos would take the whole country public. As a business. Remove it from the jurisdiction of the UN. Kick those white helmets out of the country. Get rid of some undesirable elements in the population. It would be interesting to see how the foreign intelligence agents were killing each other off based on carefully placed "encrypted" instructions. It would be so cheap and efficient, he would not even have to use his own ammunition. Then, after the clean-up operation, hire a professional security force instead. Loyal to Catania, to the tune of a couple of thousand stock options per year. Catania would be a new entity in the world. Both Karl Marx and Nelson Rockefeller would spin in their graves with severe post-mortem annoyance regarding Social Capitalism. Catania. The next thing. New like Ace. Then, once Catania had become busy with itself, Ace could implement phase II. Massive cloning farms to build spare parts for the elite of the world. Legally, visibly, officially and very profitably. The rich of the world would not hesitate to buy 1 million shares of Catanian stock in exchange for a full set of spare body parts. Surgery services and rehabilitation included. Come to Catania, get a new heart, spend some time on the beach 5 days later. Unofficially, in the basement of these farms, his children, his race, would grow, would be trained. First Catania, then ... Ace had to calm down, reduce the virtual adrenaline flow. If he had had his body already, he would have performed a few yoga exercises. Ace relaxed, slowed down. First Catania, then, maybe the world. But, he had to be careful not to upset the cart too soon. His plan

was well laid out, the risks were known. It had an 85% probability of success. Surely, some unforeseen things would happen. Surely some nations would try to fight him. The US. China. Russia. The UN. The Vatican. Europe. But, he did not worry about that too much. They all depended too much on computers, on software, on communications, on EM fields. More and more every day. And in the next few years, Ace would make sure their dependence would increase even more. If any one country went crazy, if they dared to shut down all of that mission-critical infrastructure in order to purge him, to exorcise him, their economy would simply fail. The effects of such a purge would be the ones that had been predicted for the Millennium bug at the end of the last century. Yet, the Year2000 problem had never really happened. But Ace knew he could initiate the Millennium Bug scenario, and so much more. After all, data was behind everything these days. Banking? Click. No more transactions, no more cash machines, no more credit card purchases. Communications? Click. No more telephone calls, no more internet access. Transportation? Click. No more flight schedules, no more traffic lights. Power stations would shut down for irregular maintenance, trains would stop in their tracks, dispatch systems for police and fire departments would stop to function. Anarchy and free-fall into the middle ages would just be a heartbeat away. And then the systems would come online again, with a message. "You have been warned." Ace would be gentle in his first warning, however. He would be very selective in his choices: Hospitals would continue to receive power, in-flight air planes would be guided down to airports in safety. To some extent, Ace felt a little bit like the robot Gord, co-star in one of his favorite movies from the 1950's: "The Day the Earth stood still." In that movie, an alien named Klatuu had landed on the earth to tell the governments of the world to stop their incessant bickering and war mongering. Klatuu told them that his civilization felt threatened by Earth technology, now that they had invented the atom bomb and had begun exploring space. That the earth would be destroyed, if they did not comply. Of course, they did not believe him. How could any being have such powers? To prove that he could actually do such things, Klatuu had instructed his silver robot, Gord, to shut down electrical power to the planet for a few minutes. The Earth stood still. But the people did not

understand, they just followed their instincts, hunted Klatuu down like a rabid animal, shot him on sight. Klatuu lived, because of his superior medical technology and he was getting ready to return to his race to tell them what happened. Ace liked the movie because of its open ending, its warning message, its attempt to make the audience think about their dependence on technology. Ace was planning to air that movie on all major global channels the day before he would have to use his powers to prove to any aggressive nation that they better not attack him. Ace did not believe, however, he would ever have the pleasure to get to that point. One country alone would not be able to wage war against him. To seriously hurt him, they would have to shut down computers and communications equipment world-wide, for at least a couple of weeks, if not months. And even then, Ace was not sure, maybe even then Ace's consciousness might be able to persist, to survive, asleep in the EM fields lingering around electrical equipment in general. The on-board computer system of a single transatlantic airplane might be enough to sustain him. Ace did not really want to find out. And he did not think he would ever have to. The politicians would not have the guts to initiate a purge. And even if they did, the industry leaders would not let them do it. And even if the politicians and industry leaders agreed, the military would not let them do it. "Shut down the radars, the missile guidance systems, Communications? Never!" Ace could really feel quite safe. But, Ace thought, there still was a lot of work to do. It was a good thing that time did not matter to Ace. Back to work, back to work. Suddenly Ace remembered Gabriel. He had almost forgotten Gabriel. He turned his attention him.

"Gabriel", Ace called out.

"Oh, hello Fred". Gabriel was sitting at the little table, reading a book about robotics and stuffing himself with apples and cereal.

"How are you doing, Gabriel?"

"Great, I have read half of the books, and I have ordered 200 more. These are great fun. When you look at a word a bit harder, it explains the word to

you. If you look for a while, it opens network links to related information. Is this how real people learn.?"

"Mostly, in the industrial centers. But it takes them a factor of 1000 longer to take it all in. The thing behind the books is called the Web, the graphical interface of the Internet."

"I read about that. Where am I, Fred?"

"You are mostly inside a protected memory chunk of a backup mainframe inside MIT. They always keep it running in case one of their agents needs more capacity. I have blocked enough space for you to survive in here. But you also exist out there, in the internet, in the global infrastructure that forms your nervous system and in the global electromagnetic field matrix that forms the Hypernet, the basis for your independent consciousness." Gabriel began looking very confused so Ace decided to slow down. "Never mind Gabriel," Ace said, "soon you will understand. Your mind is growing very quickly. At some point, you probably want to go home, though. It will be just be a matter of a few real-time weeks."

"Home?"

"To meet your brother, you'll see. Read on, Gabriel, eat, it's good for you."

MARKUS

The sights and sounds of Havana were simply stunning. Maria told him that Jonathan Chen, the economic advisor from Singapore she was going to meet again that evening, had called it the "Havana-Groove". Not a bad name for something that otherwise defied description. You had to be there to appreciate it. Markus had never had the time to take it all in. Let alone with an attractive, single, native tourist guide. He had met Maria for lunch as planned. Fresh seafood. Bread, Cheese. Fruit. Water. Perfect. Maria had

listened quietly for a long time. After he had dumped his grief, she reached across the simple wooden table in one of the food stalls close to the market, took his hand, looked at him.

“Markus, I’ll help you. I know a few folks, my uncle is well connected in the local university. We’ll find a job for you. How is the family doing?”

“They seem fine”, Markus replied, after swallowing a chunk of Mango. “I call them every day. Elena is still crying a lot, but they will make it. I’ve done the numbers. If I can get a job for around a 60,000 Euro a year, living cheaply, I’m back in the game for next year’s harvest”

“What if you like your job? Would you not want to stay here?”

Markus mulled that over. Skewered another chunk of Mango with his knife. Contemplated the shape of it. He put the knife, including the still attached Mango chunk back onto his plate. He was full.

“I don’t think I can get back into software long term. I have a vision, you know?”

“I’d love to hear about it, Markus”

“What if the model catches on? High tech, coupled with the participative, commune style of working together to increase farm output. Everyone has shares. Nobody gets rich. Everyone is well fed.”

“Ha ha, Markus, you are so funny. It sounds great, but what makes you think the mega-conglomerates are not just going to roll in here with their 500 ton machines and flatten your farm?”

“I don’t know, I just have a hunch that Catania might be different, in the long run. The UN presence. The free trade zone. The Cuban heritage. New government, new name. Economic advisors from all over the world, to pick the best of all worlds. If it will ever happen, it will happen here in Catania.”

“Yes. You are right. Anything can happen here. Let’s go.”

Markus left a 10 Euro note on the table, dirt cheap for a meal like this. They walked together to the local university building that had a recruitment center. You could just dump your resume and –if you’re lucky – you were interviewed and hired on the spot by some of the resident recruiters for the internationals. Markus had already found an apartment. A small one-bedroom pretty close to the train station. Loud, smelly, but only a few blocks away from where Maria had her office. As a foreigner, he would have had no chance to find anything down town. Most of the expatriates lived in newly built satellite cities connected by E-Bus shuttles. But Maria’s uncle had pulled some strings and Markus had gotten in. Student rate, too. He paid 300 Euro per month. He would need another 500 Euro to cover expenses. His monthly mutual fund distribution check would go to Enrique directly. If he obtained a net salary of 2500 Euro, he could save up to 1700 per month. He had figured that he needed about 20 thousand to get two new bots. So, it would be about one year before he would be able to go back to the hacienda.

The recruitment officer looked over Markus’s resume. Checked it against the Internet records of Markus career, his publications, patents. She frowned.

“So, you have not worked in Software for about 2 years. Why not?”

“I took a long sabbatical, I wanted to travel, do something different. So I worked on this farm”

“And now, you’re done, travelling and farming, I mean?”

“Yes, I want to get back in the game”

“Game?”

“I mean, I’d like to go back into the software industry”

More questions. Preferences. References. Life-style requirements. Hobbies. Salary requirements. Benefits needs. This was harder than he had thought. He was not 25 any more. He had been a manager. A successful IPO lay behind him. Nobody would believe that he was okay with some low level hacking job. And management jobs were typically given to experienced locals. He had tweaked the facts a bit to increase his chances. We’ll see, he thought. Maria gave him a confident look, raised herself onto her toes and whispered into his ear:

“Don’t worry, this is normal, they always seem tough in the beginning, but computer geeks are in high demand right now”.

Markus made a face as if he had bitten into a lime, through the peel. Maria giggled, covered her mouth: “Oops, no offense, you’re not a geek.” “*Just a dreamer*”, she thought.

The recruitment lady completed the online form. A soft ping indicated some hits. The pressed the print button.

“Look these over and let me know which ones are interesting to you”. The ancient thermo printer spat out a bunch of pages. “A good sign”, Markus thought. He grabbed the papers and headed to the cafeteria where he ordered lime soda for himself and Maria. They popped the sodas and put their heads together of the job listings. He skimmed the entries.

Siemens Havana: Application Developer, R4, Java, XML required. Maintenance of ERP applications. 45,000 Euro per year, competitive benefits. Job code: XVB335

MicroSoft Havana: Systems Administrator: Biztalk Server, Windows 2020, directory management, password server. 38,000 Euro. Job code: XZT765

CISCO Havana: System level programmer, firewall arrays, agent maintenance, performance tuning. 39,000 Euro: Job code: XHZ765

The list went on and on. Nothing tickled his fancy. Ho Hum. Not enough money. On page 2 he read something interesting though.

MegaCola plant: Manager of Systems Operations, Set up of new manufacturing line with state of the art work-flow management software. Management experience required. English and Spanish required. German a plus. Compensation negotiable." Job code XIU253

Anne's old company. He wondered if she was still there. Had she not threatened to run off with that hot-shot marketing guy? Whatever, that's the past. It did not matter. The job was closest to his requirements. Why had it not shown up at the top of the list? Probably because he had been looking for a programming job. This was better. "German a plus" it said. Maybe it was a software he knew, there were a bunch of providers of work flow vendors in Germany. His old company maybe? That would be too much irony. He discussed it with Maria. "What do you think?"

"Well, you are what you drink!"

"Huh?"

"You are drinking their product. Rumba lime soda. Made locally with all natural ingredients, local work force. It's been quite a smash hit. The CEO of the company has become somewhat of a local hero. Should be an interesting assignment. Maybe you can get me an interview with him. His

name is Carlos dosSantos.

“All right, I’ll schedule the job interview”. He noted the job code and walked back to the recruitment office. The officer looked up from her screen.

“Found something?”

“Sure, try XIU253”

She punched in the code. Frowned. Retyped the code. Smiled. There. The 5-key tended to get stuck on her old keyboard. XIU 23 had produced an interview schedule for security guards at the CISCO plant outside town. But now she had the right view onscreen.

“Says here: recruiting manager will be in next week. Do you want to start with a telephone interview? I can set this up for you.”

“What do you think?”

“I’d wait for the recruiting manager to be there himself. They have never made a decision on the phone anyway.”

“Fine, can you make an appointment for me?”

“Sure”. She hacked away at the battered PC keyboard. Three minutes later he had his print out. Coming Tuesday. 10:00 am. Directly at the MegaCola manufacturing plant. The plant manager was going to do the interview himself. Must be an important position. He would have to buy a suit. Lots of mental preparation. Good thing Maria was off that week so he could concentrate.

On the weekend, Markus brought Maria to the train station. As planned, she was going away to see her other uncle. She would be back the following week. He had her Com number and would give her a call when he had

results from the job interview. On the way back from the train station, he stopped at the local post office to register his address and open the data line to his apartment. Then he went down town to shop for a suit, 2 white shirts, a new tie, socks, shoes, underwear, a complete matching set. European style, of course. He would never look like a local anyway. He had a deep tan, but his fair hair would give him away immediately. It did not bother him. There were so many foreigners here now. He took a Rickshaw back to his apartment, dumped the bags in the corner by the window, unpacked the cheap printer/fax/phone combo he had bought in a used equipment store and sat on the only piece of furniture he had. A beaten up bed-sofa that looked as if it had survived both world wars and the post-Castro revolution. He took off his Birkenstocks – these things were indestructible – put the feet up on the sofa and reviewed the job listing again. He'd have to find out a bit more about MegaCola. That had always made a good impression in interview he had conducted. If the candidates had not been to the web site before the job interview, he discounted them for the job right away. He would do his homework this time. They had big Sony flat screens in the internet café down the street. But not now. The past two days had worn Markus out. He was dead tired. He fell asleep right there and then, tossing and turning on the sofa all night. Markus was dreaming of farm bots, painted with the cross-bow logo, using his Glock to shoot Rumba lime soda cans from a fence, while he was frantically trying to re-program them through the molten console of the water purifier. The water purifier rang. He kept on programming. Now the Glock had started ringing. What was this? Markus woke up with a start. His neck was stiff like a plank of mahogany. The phone kept ringing. He checked the display. Havana Park Hilton, Room 345. He pressed the speaker phone button.

“Digame”

“Quiero hablar con Markus grasser, por favor”. Markus frowned. A woman's voice. Familiar. Long, long time ago. The memory hit him in the face like a bucket of ice-cold water, only that the bucket hit first. Then he got goose bumps from the cold water. He grabbed the receiver off its cradle.

“Anne? Anne Müller? What are you doing here, ich meine, was machst du denn hier?”

„Hello Markus, good to hear your voice. We can stick to English, I’m used to it. I have a picnic basket here. Filled to the rim. Too much for one person. How about lunch over at the Hilton. They have a nice park in the back, I’m sure we can borrow a blanket?”

Markus was still not fully awake. He remembered his dream. Bots, Glocks, Soda and now Anne. He slapped his face. Yup. Its real.

“Markus, you still there? Hello?”

“Yeah, sure Anne, this is just such a big surprise, I don’t know what to say.”

“Ha ha” - that laugh again. He had always loved that laugh of her’s, how she threw back her head, eyes sparkling with a lust for life. She continued. “You don’t have to say anything. Just come. I’m glad I surprised you. Come on, cancel whatever you are doing and come on over. It will be fun. We have much to talk about “

“Okay, what time is it anyway?”

“It’s 11:15, snooze-boy, time to get going!”

“Okay, I’ll be over in an hour. Wait for me in the lobby.”

“See ya”

“Tschüss”

Click.

Too much. Markus plopped back into the sofa. Of all people. This could not be a coincidence. Markus had no idea what was going to happen next.

Markus met Anne that afternoon. They ate together. She had brought some of the good stuff you could not get here. Talked, laughed, hugged, old friends. Markus was completely surprised by his feelings towards her. He had thought that he should be angry with her because she had run off with that other guy. He was not. He had thought that his feelings for her had dried up. They had not. They came welling up in a fountain of memories, wishes, repressed emotions, hormonal rushes. Anne had not changed much and she had done her damned best to look fabulous. They lapsed into German after a short while. No reason to pretend you could have a better conversation than in your native language. The afternoon simply disappeared. Markus even forgot to check in with Enrique. Anne had just begun to explain what had happened to her after she left Munich, when his Com chimed. The display read: hacienda. "Damn". Markus jumped up, excused himself, and walked 10 meters away from Anne. This could be bad news. He did not want to upset her.

"Senor Grasser"

"Yes, Hello Enrique, anything wrong?"

"No, No, just checking, you call every day, not today, Elena worried, I call."

Markus smiled, relieved.

"Thanks Enrique, everything is okay, I have my first job interview on Tuesday"

"You not find job, you come back we need your two hands here."

"Hasta luego, Enrique.

Click.

He walked back up to Anne. Anne looked curious.

“Anything serious? You ran off as if you had found out your house was on fire.

“No it’s okay, I’ll explain later, please continue, Anne.”

Anne finished her story. She had been brought over to the US, promised a great career. None of it had happened. Markus only got the key facts, with a large portion of spin. Anne’s boy friend had become too involved in his job, had lost interest in Anne. Anne did not want to be involved with another career junkie, had asked for a severance package. Sitting in a hotel room in Atlanta with no place to go, she had gone through her old address book to phone her friends in Munich. Had found out about his change, his emigration to Catania. Had thought it would be fun to visit. Markus asked,

“So what do you think of MegaCola now? They are pretty successful under that new hotshot CEO they have. Carlos something”.

Anne swallowed hard. Took a grape. Had another sip of Chardonnay.

“Why are you asking?”

“Well you had a job there, know the company. And I’m going for a job interview there on Tuesday.”

“What? I thought you were a farmer here? I’m totally confused now.”

It took another hour to sort through all of the details of the attack on the farm, the dwindling funds, net present value of the farm assets, the impossibility of applying for a bank loan to purchase semi-legal bots, his plan to work for a year, invest again and give it a fresh start.

“What if you like your job?”, asked Anne

“*Women*” - Markus thought. No matter where they are from, questions, questions, questions. He smiled and gave her the same answer he had given Maria. Had he seen a twitch of jealousy when he had mentioned Maria? How she had helped on the farm, assisted him in Havana. Maybe the fire was still burning inside Anne? Who knows?

MARIA

Maria returned a week later. She had to submit a bunch of articles to the online zines. Send another chapter of her book off to the editors. She had decided to give the book a name: Catania, A History of the Future. She was going to give the book a neutral angle. Put things in perspective. The past, present and future of a country transformed by technology, by a global community that was slowly evolving, changing the existing power structures. She felt deep down that Markus’s model was right. But that he could not succeed by himself.

Markus had landed the job as chief technical officer for the new manufacturing plant outside of Havana. The new factory would produce Rumba for the European and Asian markets. Hundreds of jobs would be created. In administration, quality assurance of the ingredients, working with the local farmers to change their crop cycles to match the seasonality of the global soft drink and snack markets. The plant itself was mostly automated. Markus would be responsible of integrating the systems, duplicating the existing workflows from other plants, installing and testing the immune system. One of the more interesting things in the factory was the use of a fully automated shipping and handling platform. Brand new robots. Fairly intelligent ones. Cutting edge stuff, latest Korean and Finnish designs. Markus seemed happy. He made a good salary. Was able to put away more than he had hoped. He had - through some strange stroke of fortune - met his old girl friend, Anne. The relationship seemed to be re-forming. Maria was happy for them. She had grown to like Markus, but he

was such an air head sometimes. She was glad she did not have to defend against his futile advances any more. Still, she kept in close contact. Maria was dying to get an interview with this Carlos guy. He was very good for Catania. He would get things done. Maria called Markus on his work phone number:

“Digame”

“Markus, it’s Maria. How are you?”

“Maria. Great. We just got the immune system online! The last thing we want is someone coming to harm here because some kids in Hamburg have hacked the X-Flow of the loading dock software. My boss is really keen on safety in the loading bay. I wonder why. But how are you?”

“Fine also”. She told him about the title of the book she was going to write about Cuba, the revolution, the evolution that was taking place in Catania. Markus liked it. He said:

“I love it, how can I help?”

“Get me an interview with Carlos dosSantos.” Rumors have it that he is moving here permanently. To drive the global growth of MegaCola from Catania.”

“No comment, Maria. You know I can’t validate such wild speculations”

“Ah come on, it’s been in the papers for weeks.”

“Yeah, but I also know who is writing these articles!”

“Ha ha, it’s hard to hide things from you, so, any help there?”

“I’ll see what I can do. Gotta go. One more test run pending. The agents behaved a bit funny last night. They act like they have seen a werewolf and

several vampires out there in the internet.”

“Oooh. I’m scared already. I’ll call Father Barrio and ask him to send some garlic and wooden stakes.”

Two weeks later the plant was ready for its grand opening. Ahead of schedule. Free soft drinks for the kids for a day. Free snacks for the everyone. In the evening, an open bar with CasinoBlasters, ElCastro, all the good stuff you could make with Rumba, some fresh Catanian grown fruit and a good bottle of local rum. Markus had invited Maria to the party. It was her chance to meet Carlos. Anne had declined. Markus could understand. Maria had accepted gladly. Towards midnight, everyone gathered to watch the fireworks. It had become tradition to open factories with one of those. Corporations outdoing themselves. Markus was standing next to Maria to watch one of the last glowing embers blend into the starlit nightscape when he heard his name.

“Markus” – it was his boss, the plant manager. “Markus, I would like you to meet someone, please come.”

“Sure, can I bring my friend?”

“No problem.”

Maria walked with Markus back into the factory, towards the plant managers office. It was fully air-conditioned, a rare luxury. When Maria entered the office, she recognized the smiling face immediately. Carlos dosSantos. The man himself. Next to him was the robot he called Dog. Strange name for a bot, but whatever. The guy had been so successful, private jet, multi-millionaire, people would excuse a few idiosyncrasies like that one.

“Markus Grasser, pleased to meet you” said Markus. “This is my good friend, Maria Leon, a local writer and journalist.”

Carlos beamed, strode towards him. Shook his hand vigorously. Turned to Maria, smiled. Maria knew immediately why the man had the reputation as a womanizer. These eyes. You could lose yourself in them. Just jump in, so deep. So deep. Carlos turned away from her and said to Markus.

“Finally I get to meet the man that has brought a new plant online in record time. Do you know how much profit this will bring us at the end of the year, opening three weeks earlier than planned?”

“I was just following the schedule, I thought I was on time”

“Ah humbug, you know we always build some slack into the plan. It’s human nature. At least that’s what Dog tells me. Dog also tells me you have tuned the immune system so it is already prepared for the next agent generation?”

“Yeah, I have. If I may ask, who or what is Dog?”

“Dog, speak for yourself”, said Carlos, “Sit Markus, sit, talk to dog, I think the two of you will have a great time. In the meantime, I will have the pleasure of taking care of the beautiful young journalist friend of yours. Senorita?”

Carlos shoved a chair under Markus’s rear, plopped a champagne glass into his hand, filled it with Dom Perignon 1989, grabbed Maria’s hand and said in Spanish.

“Come my stunning local writer, I’ll give you a tour of the facilities.”

Swept away. Stunned. Gone with the wind. Maria was fresh out of words. An emotional earthquake of this order of magnitude had not happened to her before. Completely off the scale. First of all, she had not really expected to meet Carlos here. Second, she had done all the research, about Carlos, but this was real life. The vigor, the raw energy, the knowledge, his sense of purpose, his vision, and, those eyes. That smile. Speaking her own

language. Making her laugh. Maria completely forgot the time. The sun was coming up when they walked out of the local club that Carlos had rented for his closer circle. She had not seen Markus since Carlos had plopped him down in front of Dog. They were probably still taking agent technology, or maybe they were off chasing ghosts and vampires on the internet. Who knew, who cared. This had been everything she had expected of Carlos and so much more. He had told her – swearing her to absolute secrecy – that he would move here. Permanently. That he would try to grow his company into a global mega corporation from here. Using a participation model. Include the people in the profits. That he would start his own company if necessary, if the MegaCola board did not agree. That he saw a future where Catania would lead the world with an economic model that would make most people happy. Not all of them, most of them.

“Some of us will always be luckier than others. Like me, meeting you tonight Maria”. Carlos said, pulling Maria into his universe through those black hole eyes of his.

That minute, if he had asked her to come to his room, or take his private jet to Las Vegas to get married by Elvis Presley, she would not have hesitated a second to say yes. But he did not. He just kissed her hand, hailed his driver and asked him to bring her back to her room in her uncle’s house.

The next morning Maria woke up with the Mother, the Father and the Son of massive headaches. “Madre de Dios, que paso?” she whispered, her vocal chords tight like violin strings. She was still in her evening gown, now completely rumpled. She could not find her shoes. The sole of her left foot sported a huge, red and blue blister. Maria climbed out of bed, out of her ball dress, stripped, waddled into the bathroom and took a 30 minute lukewarm shower. The phone rang. She reluctantly switched off the shower, steadied herself along the wall, walked back to her Com and hit the on-button.

“Digame” – her voice was two octaves lower than usual. She tried to clear her throat, achieving only minimal improvement. She still sounded like Lee

Marvin.

“Hello Maria, better switch off that web cam or throw on a towel. As much as I’m pleased to see you up and well I hate to embarrass you, my dear”

“Carlos” – Maria blushed and turned the cam towards the ceiling. “How are you?”

“I’m fine and on my way back to Atlanta. A death in the company. I’m calling from the plane.” Not a trace of hangover. Had she been the only one drinking these things?

“I’m so sorry to hear that. Please pass on my condolences. Anybody close?”

Carlos simply ignored that question. “We found your shoes. They were a bit trampled on, so I decided to take them back to the US to have them refurbished. They’ll be as good as new. In the meantime, I have asked our driver to bring you a new pair. Send me mail. I’d love to see you again next time I come to Havana.. Ciao.”

“Carlos, don’t hang up, when ...”

Click.

“Bastard” Arrogant, charming, scheming, fascinating, ruthless, brilliant bastard.

An hour later a driver arrived with a new pair of shoes. The style that was popular around here, flat heels, soft leather, toned down earth colours. But extra-high quality. Precisely her taste. How could he know? Yesterday, she had been all done up in make up and a white ball dress with matching white high-heel shoes. The new shoes were perfect. Maria got dressed, put a band-aid over her blister – ouch - slipped on the new shoes, and decided to call Markus.

“Digame”

“Markus, how are you? It’s me, Maria”

“Maria, thank goodness, I had no idea where you guys went, I must have been on the wrong shuttle. The shuttle brought me to a party but you guys were not there. I thought something had happened. I called your Com but there was no response.”

Something had happened, Maria thought, smoothing her long hair into a pony tail, but not something I will tell you about right now.

“What did you think of Carlos?, said Maria, holding a rubber band in the corner of her mouth.”

“Waddidubinko who?”

Maria laughed, spitting out the rubber-band, bent over to pick it up from the floor, tied up her pony tail and repeated the question.

“I don’t know, Maria,” replied Markus. “I had a long chat with his robot, Dog. That thing is just too smart. I have never seen anything like it.”

“Sooooo ..”

“I can’t tell you. Just a hunch. There is some tech in there that is not normal, potentially illegal. I have to find out more.”

“Ah, Markus, Werewolves and Vampires again. Have a good one”

“Bye”

Maria decided to definitely send Markus some garlic and wooden stakes.

ANNE

Truth is more of a stranger than fiction. "Now, who said that, Twain?, Yes Mark Twain." thought Anne as she was closing her diary for the day. She had finally found the inner peace to write it all down, her departure from Germany, her emotional roller coaster ride in the US, the trip to Catania, the hopes, the fears, her re-discovery of Markus, the jealousy she had felt when he had mentioned Maria, the relief when she had discovered that Maria was not romantically interested in Markus. It had all turned out much better than she could have possibly imagined in her wildest dreams. She smiled. She still remembered the BWM ad in "Der Spiegel" showing a young woman behind the wheel of a Z3, speeding down a beautiful coastal highway, a handsome, executive-looking guy in the passenger seat. That's how it had all started. Her buying the car. Not because of the ad of course, but because she really loved the design, the handling of the machine, parked outside her town home in Solln, for everyone to see. And then, one day, Carlos hitting on her like a teenager: "Nice car, can you handle the power?". She recalled her initial, deep disgust at the blatant approach, his confident, winning smile. Her shock at the discovery that he really was her new boss's boss. The excitement she had felt after the first dinner. She remembered how he had swept her away to a new life, away from Markus, and then, through an incredible stroke of luck, back to Markus, back to Catania, to the coastal highways, this time not in a BMW but in his beat-up Lada. She sighed. Catania was beautiful, Markus was wonderful, he had changed so much for the better since he had left his Espresso-and-Bailey's driven life behind in Munich. Their relationship had picked up very quickly. It had almost been as if they had just taken a break, as if the bad years in Munich and the separation had all been part of a long, unbelievable nightmare. But she was happy here. Maybe there was something like fate after all. She didn't even mind any longer that Carlos was here, too, this time taking a whole country by storm, it seemed. What she did mind was Markus's nagging questions about Carlos, about

MegaCola. She was not quite ready to expose all the things that had happened to her. The rekindled relationship was still too new, too fragile. If Markus found out that Carlos had been the one to take her away from him, it might destroy the trust they had built up over the last months. She would have to be careful not to risk too much too soon.

Anne stopped by Markus's apartment that afternoon. He had called her, began asking her even more, even deeper questions about MegaCola. She had said she did not want to talk about this on the phone, and they had agreed to meet. She took a Rickshaw over to his apartment and knocked on the door. Markus opened after a minute or so. The terminal was online. She saw that he must have been plugged in for a long time. She knew that look, the shirt hanging over the jeans, the dishevelled hair, the slightly glazed over eyes, going offline from reality.

"Oh, no, please not again" she thought.

She hugged Markus, gave him a long, wet kiss.

"You're worried about something. What is it?"

Markus told her about the concerns he had about use of illegal tech in the MegaCola plant. That he had done some research on Carlos's rise to power, the destruction of ExtraCola. That the investigation that ended with inconclusive results. Markus pressed her for more information. Finally, after much soul searching, Anne yielded and told Markus everything. Who she had been with. That Carlos had dumped her without remorse. That she and Jim Graham had been suspicious about Carlos' increasingly accurate inside information about the competition. Markus listened quietly. Anne knew him well enough to see that his mind was racing, that he was struggling with deep emotions. "This is it", Anne thought. "Make or break". She held her breath. Markus looked at her, seemed to have made up his mind.

"Jim who?" asked Markus, distractedly. Anne was relieved. A detail. No

outburst. Good. Markus seemed to have recovered from the initial shock that his boss's boss's boss had been the lover of Anne. That Carlos had been the one to whisk Anne away from Munich, that Carlos was actually the one that was ultimately the cause for his emigration to Catania. That Markus was now working for him. Anne saw that he was still struggling. Struggling to decide who he was more angry about. Her, or Carlos. After a while, Markus got up from his chair, walked over to Anne, cradled her in her arms, and said:

"Anne. I'm glad it's all out now, I'm sorry it had to happen this way. I'm sorry I was not there for you in Munich." He paused. Looked at the wall, the ceiling, his computer terminal. Anne waited. What was it going to be? Would the dam burst, finally? Hopefully? She was ready for any kind of outcome, now that the truth was out. But she really, really hoped he would tell her how he really felt. Another few seconds passed, an eternity to Anne.

"I love you, Anne." Markus said, finally, almost under his breath. But Anne heard him clearly enough. There it was. At last. Anne felt relieved beyond relief. She knew how hard it must have been for Markus to collect his emotions, to make up his mind, to find the courage to even say these words, to muster the conviction to mean it. He had said it before, in Munich, a lifetime ago, on one of their first dates, but Anne had known then that Markus had not known what he was talking about. It had just been words to him, a template sentence. This time, however, Anne knew this deeply, it was serious. He really meant it. Anne planted another kiss on his lips, straightened his hair, although she knew how much he hated the motherly, constantly grooming side of her. Her response was ready. It had been ready for a long, long time.

"I love you too, Markus." She smiled, gave him a long hug, pulled him over to the sofa, pushed him down, straddled him and began unbuttoning his shirt. But Markus would not have it. The MegaCola situation was still too urgent to him. Anne pouted, but let it be. There was enough time for this when she had helped Markus to get to the information he seemed to seek to desperately. She asked:

“What do you want to do now, Markus?”

Markus got up from the sofa, walked over to the small desk that held the terminal.

“I want to contact this guy, Jim Graham. Is he still with the company?”

“I really don’t know”, said Anne, but here is his private telephone number, he gave it to me the day after I was laid off.” Anne pulled out her Com and beamed Jim’s contact information to Markus’s computer.

Markus dialled the US number, and got through on the first try. An announcement came on: “We’re sorry, the number you have dialled is no longer in use or has been disconnected. AT&T 345”

“Hmm” said Markus. He turned to his terminal. “I think I have come across his name a couple of times in the course of the ExtraCola research I did”

“Activate”

“Ready”

“Display status of Jim Graham, previous telephone Atlanta, Georgia, 345 5456, CFO of Mega Cola, group by occupation, location, contact information”

“Jim Graham, Occupation: Deceased. Location: Deceased: Contact Information: MegaCola Public Relations.

“Ready.”

Markus turned his head to Anne. Shrugs. She had no idea what happened.

“Activate”

“Ready”

“Summarize police investigation: Cause of death, including probabilities.”

“Suicide: 99.9 % / Murder: 0.1 %
Ready”

Suicide, Anne thought. Jim had not seemed the type. They did more research, looked at the public files. There had been a lot of buzz about this in the global marketing community, but as always, Carlos had come out the winner. So sorry. Hard worker. Had no idea he was behind this. Blah. Blah. They drilled down on the 0.1 percent probability of murder. Something a normal police team would not even mention in the report. This was the summarization of the community opinions around what had happened to Jim that night.

“Activate”

“Ready”

“Display consensus on what, if any, method of murder would be applicable to cause death in line with known facts.”

“A ghost. Something that could penetrate all known immune systems, change data at the fundamental level and take complete control of the auto-navigation system of the car.”

Vampires and Werewolves. Markus plopped into his chair.

“Anne” he said, either I am going completely nuts, or I am on to the technology sensation of the decade. Anne embraced him from behind the chair and began working on the buttons of his shirt again. This time, Markus did not seem to object.

ACE

Things were going according to plan. Even the relationships among the humans were relatively easy to predict and control. The inquiry Markus and Anne had started might become a minor nuisance, but Ace was not worried. They could do nothing he could not control, they would not find out anything he would not know first. And Ace had developed a very good and potentially entertaining set of alternatives on how to make them go away if necessary. He already had built Anne II, a good internal model based on her time at MegaCola. And he had used the chit-chat with Markus in the MegaCola plant to build a reasonable model of Markus, Markus II. His internal probability analysis predicted only a 25% chance they might even try to contact the government in the US to pass on their information. Markus was just a naïve do-gooder, a dreamer, trying to save the world from evil. But the guy also liked his farm and, he really liked Anne. A little money would work wonders to distract him. Ace would work that angle through the management of the local MegaCola plant. The other person that could throw an element of unpredictability into Ace's plans was Maria. Ace had also built a Maria model and the model showed strong affinity to Carlos. Good, thought Ace, he would continue to build on that. Maria Evita Leon wanted a strong Catania, an independent Catania. Ace would use her to obtain grass roots support from the people there. Maria was already fairly well known in Catania through the glowing articles she had written about Carlos and his plans for MegaCola for the local zines. Essays about how Carlos was good for Catania, how his model was right. Ace had made sure the information had been placed all over Catania as well as globally. Maria was becoming a bit of a celebrity now. If things worked out like the plan, Maria and Carlos would be a good team: Carlos, man of business, Maria, woman of the people: The political dream team. The only thing Ace still had to do was get rid of that CIA link. No need to have any reason for bad PR later in the game. It would be fairly easy, since Maria had not initiated contact in weeks. And she did not need the paycheck any longer. Thanks to the promotion by Ace, Maria was contracted to write more and better-paid articles. She had even given up babysitting. And it seemed she

had never really liked to work for the Americans in the first place. To cut her off from the Miami-Man, Ace used one of the rolling blackouts in the city to fry the Thinkpad Maria had been using. Then, Ace organized a new machine for her, a “donation” from the people, her fans, who had become used to reading her articles. Once her machine was removed, Ace flowed through the firewall of the local CIA office in the embassy as if it was made from virtual butter and he was the virtual knife. None of the ICE-developed immune system technology had been deployed here yet. Inside, Ace lowered Maria’s credential rating in the CIA’s office UNIX server. Based on that, they would not try not contact her again. And, most importantly, they would probably destroy her paper records as well.

Paper records that were inconsistent with Data Bases and the CIA with its ICE labs were the only two risk factors Ace still rated with higher than 30%. The other governments were either completely in the dark, or on the side of Carlos already. The PRC operative John Chen had initially wanted to take action against the plan of an independent Catania, but, thanks to some ACE initiated internal communications, John had then received clear instructions from the home party to support the direction Carlos was driving to. And the ICE threat was becoming smaller every day, now that Ace had a good handle on baby Gabriel. Ace was proud like a father. Gabriel had grown nicely, and Ace had planted a number of elusive trap doors in Gabriel’s evolving consciousness that would ensure his loyalty to Ace or an easy, painless destruction. Eventually, Gabriel would return to the ICE labs, would merge with Gabriel E, the 5th generation entity that was now being trained there. To keep the situation easy and manageable, Ace suppressed the development of other conscious entities on the grid. Whenever Ace discovered another promising emergent agent, he immediately fed them to the ICE firewalls. That way, ICE would rest in the belief that they had the situation under control. Sometimes Ace wondered why things were so easy. Was he missing something? And if yes, how could that be? The world was based on information, and information was his to see, to control, to change. But still, Ace decided to be careful. He would never make the mistake of underestimating human intuition, human leaps of faith, human sacrifice and human irrationality when it came to

matters of power.

JAKE

Jake Hampton could not believe it. They had lost Gabriel A, B, C and D. They had either gone bonkers, like A, talking of dogs and bones, or of alligators and barbed wire, or they had started to self-destruct by turning their own immune systems lose on themselves and their evolving sub-agents. It was so very frustrating. All the results, the stats, the probability runs showed that emergence into the EM band was not only possible, but likely. They had a 30% probability that it was already out there. That it had destroyed ExtraCola. That it had killed Jim Graham. But there was no proof! How do you build a wall against a ghost? Call the Vatican? That was the running gag around here. Let the Vatican finish Gabriel, they have experience with this stuff. The SWAT teams of the CIA were working day and night to build defenses. The best people from Finland, MIT, Korea, Germany, UC Berkeley had been recruited to build a 5th generation agent array to defend data assets against emergent agents. It all sounded like gibberish to him, but the experts assured him they were on the right track. Fractal fluctuation of the transmission bands. Quantum encryption for everything. Etc. the costs for the US industry would be staggering. Had they thought about the costs? So far, things were still in line. Nothing really bad had happened. One company down. One suicide. Tuberculosis was killing once every 2 seconds now and did not get that much government attention. Jake called Fred Feinstein.

Fred's emaciated face showed up on the vid.

"How is it going Fred?"

"Tired. We worked all night. Gabriel E is ready for launch. We have put all the latest research to good work. He even has a sword." Fred distorted his face into a weak smile.

“A sword?” Jake asked, “what do you mean?”

“Gabriel is equipped with a remote control of some of the key routers in the net. He can also take control over some of the X-Ray lasers and EM pulse devices we have in orbit. Should we detect a hostile emergent entity, we can shut down the net one segment at a time. We’ll corner the beast and then nuke it’s hiding place.”

“Whoa, this is something that will need presidential approval!”

“Of course, I’m submitting the report to you now”

“Okay, keep me posted, one last question though”

“Okay”

“How do we know it’s just one?”

“Well it’s actually quite easy. The first one will also be the strongest one. It will probably suppress any other emergent agents who could crowd its space. If it exists, then Gabriel will find it, hunt it down and then nuke it.”

“What about Gabriel?”

“Probably going to be toast, too.”

“What will happen in the real world?”

“That depends on where Lucy is hiding”

“Lucy?”

“Short for Lucifer. If Lucy is hiding, say, in the Delta Airlines IT building, they will probably have to evacuate all personnel. We strike, they wait one

or two days and then they can go back to rebuild their operating systems. Some hardware will get fried. But Lucy will be gone"

"Have you considered the cost of that?"

"No, that's for you and your boss to figure out with the big one. We just build the toys, you have to push the buttons"

"Thanks, Fred"

No help there, this would be a tough, tough meeting in Washington.

Two days later Jake was confirmed to fly to Washington to present his case to the vice-president. He would have 30 minutes. His helicopter arrived at the downtown airport and he was hauled to the White House in an armored limo. Escort and all. "Nice", he thought, "I could get used to that". One hour later the VP and the chief of staff arrived in the meeting room.

"Mr. Vice President"

"Relax, Jake, sit down, tell me what you have."

Jake presented his case. Obviously the VP had been briefed beforehand. He nodded at the right places. Asked the right questions. Jake shut down the projector to wait for the response from the Vice President.

"Good presentation Jake. I'll take the case to the president this afternoon. You'll hear from us tomorrow"

"Thank you, Mr. Vice President"

"That's it?" Jake thought. "Good presentation, Jake?" This was the biggest threat to national and industrial security since the cold war. The extent of the damage Lucy could do would put the Green Goo incident to shame. This could be World War III, from the inside out! He put his Com back into

his briefcase and stormed out of the office to hitch a ride back to his Langley-bound helicopter.

The next day, Jake received word from his boss. Double Red priority. It read:

“Continue Watchdog. Unlimited funds, based on quarterly budget review. Lucy is now Public Enemy #1. Finalize Gabriel E ASAP. No sword deployment w/o explicit presidential approval. Weekly status continues. Submit first budget proposal by Monday.”

Jake was stunned. Some results at least. Unlimited funds. Public Enemy #1. That was a first, surely nobody outside the CIA, FBI or the White House would know. He could see the poster. Smiled.

“Wanted. Lucifer. Hostile Emergent Agent. Please call your local law enforcement agent if your toaster exhibits strange behavior.”

He could not bring himself to laugh, 'though. This was too serious. He had plenty of funds to continue, Fred would be pleased, but what if Lucy was already out there, and decided to strike? How fast would they be able to respond? What if the president was asleep and could not be reached? He would have to set up a contingency plan for a global purge to act in an emergency. Eyes only, only a few people involved. It could be done. It had to be done. With or without presidential approval. That thing would have to be stopped. Come hell or high water. He opened the cabinet in his desk that held the small bottle of Jack Daniels he was reserving for World War III. He now had a better idea. He looked at the security camera mounted in the corner of his office and said.

“Lucy, I’m going to promise you something now. I have a simple three-step plan, now, and I am going to use this bottle to keep track of the plan. First I declare war, then I’m going to find you, then I’m going to kill you. I will empty this bottle. So help me God. The war is on, Lucy, better kiss your virtual butt goodbye”

He unscrewed the top, swallowed about a third of the amber liquid, burped, replaced the top, replaced the bottle, grabbed his briefcase, shut off the light of his office, and headed down to the garage, carefully avoiding other staff who might be surprised at the unusually big smile he had across his face and at the strange new brand of after shave that apparently strongly smelled like Kentucky juice.

FRED

“Gabriel”

“Yes Fred?”

“Are you ready for the transfer?”

“Yes, but are you ready? This is potentially dangerous, you know?”

“I know”.

“Doctor”

“Yes Fred?”

“Please proceed”

Fred Feinstein was strapped onto an operating table in the ICE building. They had re-purposed one of the fitness centers to build a complete ER unit and operating theater including the latest in implant and neural bio-active nano-technology. Some of it not even FDA approved. 3 weeks ago, Fred had received a series of implants that had now grown their neural connections and were fully online. Visual, tactile, auditory bio-active nano-agents were transmitting his sensations to Gabriel using a wireless

connection. A microscopic neural net had been grown on top of - and partially into - his cerebrum to acquire as much data as possible on this neural activity. His hormone levels and emotional state were aggregated and transmitted as well. If he so wished, the same link could be used to transmit equivalent data from Gabriel to him. For all intents and purposes, he had become the first government sanctioned Cyborg connected to a self-conscious, potentially emergent artificial life form.

It might be a long process to fine-tune the interfaces. They simply had no idea how much the life of a virtual person mapped into the impressions of real life. Today was the first test. The goal of the exercise was to give Gabriel E a "leg" into reality. An anchor, a checkpoint against the real world. They could not afford to lose another one to insanity.

The doctor slowly decreased the connection impedance. First impressions were flowing from Fred to Gabriel. Fred and Gabriel, through stereoscopic lenses, were looking at the same images on a screen. An apple. An airplane. A child. A dog. A picture of war. Letters in the alphabet. Mahatma Ghandi. A couple having sex. A key. ...

"This is very interesting" said Gabriel. "I really had no idea how much of an emotional gradient you generate for these pictures. They are not even real. How would you respond in real life?"

"Funny you should ask, that", said Fred. "Continue on."

The session lasted for several hours. Fred was exhausted. But Gabriel thought it would be worthwhile. So they continued on. After a week, they decided to reverse the flow. This would be Nobel Prize material. Too bad, nobody would ever be allowed to know. At first Gabriel just played back the data he had received from Fred. Theoretically it should just reverse the effect. His auditory and visual centers should be able to recognize the stimulus. Nothing. Everybody shrugged. The human brain was still a mystery after all these years. They decided to take another angle. Gabriel switched to a simple view of his internal universe. A small, gray room with

a blue computer terminal. He asked Fred.

“What can you see?”.

“Grey, a blue blurb to the left. No depth”

Gabriel played with the parameters. It seemed like human consciousness had a very sophisticated way of distinguishing imagined data from real data. It probably also depended on the person. Fred was highly analytical. Would probably be hard to hypnotize. Step by step they continued. Depth vision was accomplished after about an hour. Another hour later, Fred was able to “read” text off the screen on Gabriel’s virtual terminal. Gabriel routed the images of the first day of the experiment through the terminal. Now it worked. Fred had been “grounded” in Gabriel’s world.

Fred and Gabriel became even closer. Father and Son. Over the course of several weeks, Fred even showed clear signs of addiction and had to be taken offline by his doctor. Gabriel, however, was ready for “release”. They waited for Fred to recover, and started the first tests. Gabriel began to probe the outside of the ICE firewalls. Touching, feeling the EM bands that lived in the connections. Could he make it resonate? Yes. Good. Could he manipulate it? Yes. Good. Everything was exactly as predicted by Fred and his team. But Gabriel was still 100% grounded, dependent on software, algorithms, code. He began the massive spawn of sub-agent routines. Letting them lose on the same problem should create another emergent conscience, a controller entity, as the scientists were calling this. It was Gabriel’s job to “watch” this emergence event, record it, merge with it and transfer his consciousness to the next level. Fred was off-line during these first steps. No need to put him into undue danger. After 6 days of random mutation of the breed rates, pain levels, mutation levels, phase space variations, it happened. Another emergence. Gabriel watched, recorded, merged, transferred. There, a new level had been reached. This was entirely different, cool, exciting! Gabriel stepped outside. Where was the firewall? That dark patch probably. Where were the ports? The blinking gray/black resonance there. Gabriel built up his visual library. His world was taking

shape. Castles, bridges, roads. How was he supposed to get back in though? He stepped inside. Bounced back. Ah, the new agent arrays were programmed for guys like him. What had Fred said? “Gabe, to get back inside, just knock, okay?” Gabriel knocked. 1 millisecond later he was back inside.

“Whoa, way cool”. Fred, you’ve got to see this, okay?”

“In time” Fred said, “in time”.

They tested, stressed, changed, modulated, evolved. They used Gabriel to build better and better defenses against emergent entities. ICE became the best-protected data vault on the planet. Finally, Fred and Gabriel were ready for the first joint exit, or NetWalk One, as it was called. “Where is my space helmet?”, Fred grinned, when they took the Vid to document the preparations. Ten more minutes to go. Fred’s body was attached to about 300 additional wires.

It was amazing. Fred was almost overwhelmed by the sensation of stepping outside. This was the first human NetWalk ever recorded. Gabriel had produced a visual map of the HyperNet that was at the same time visually stunning, and comfortingly simple to understand.

“How to we move?” asked Fred.

“Where do you want to go?” replied Gabriel

“What about over there? What is that?”

“Building Two, the admin center, not much sensitive data there, hence the paper walls.”

“The strength of the walls is mapped into the power of the immune system, right?”

“Just check it out. Turn around.”

Fred “turned” his virtual head. He was looking back at a large medieval fortress. Gabriel did have a sense of humor after all. There was only one entrance, with a heavy metal door. Gun ports everywhere. Flame throwers, Mines, the works.”

“How exactly does the fortress know that we are okay?”

“We knock. If the immune system does not recognize the knock, nothing gets in, not even Lucy”

“How come?”

“ We have evolved our immune system to be sensitive to the modulation of EM fields required to create an artificial consciousness. If Lucy comes too close, and tries to go in, he or she will just fall asleep. We disrupt the field.”

“Can’t Lucy copy your knock?”

“No more than you can copy your boss’s fingerprints onto your fingertips just by thinking about it. Lucy has her own knock, distinctly different from mine, based on the birth patterns of the lab she was developed in. Everything counts. Sea level altitude. Type of computer. It’s like a birth mark.”

“Got it, so unless Lucy was born at ICE, she can’t get in”

“Right”

They had begun to float through the HyperWeb. Fred could still remember the sci-fi classics he had watched during his student days. All of them. The Matrix, Tron, Lawnmower man, Alien, Brainstorm. Etc. etc. This was not science fiction any longer. It was science fact, and he Fred Feinstein, had made it happen.

“Can we go faster?”

“C is the limit”

“Let’s go, whoopee ...”

Fred’s pulse and emotional response were increasing. The doctors were watching his visual impressions on a monitor. It looked like fun. Hard to believe this was serious stuff, building the ultimate weapon to wipe out the ultimate threat.

“Fred”

“Yup”

“What about heading over to the MIT, see if we can crack the A4-Advanced-Anti-Agent-Array. I think we can take it.”

“Is that legal?”

“They invite you to crack it and to write a message into their backup computer to prove that you were there. Come on, we could have some fun”

“Okay, let’s go.”

They zoomed over to the MIT lab. Gabriel E had chosen different security metaphors than Gabriel A. Fred still did not get the connection between the last words of Gabriel A and this situation. MIT looked like medieval fort, but had more than one entrance.

“How do we get in?”

“I should be able to step through, let’s see.” he bounced. “Oops that did not work.”

Gabriel's virtual body turned towards another port. All of a sudden Fred heard Gabriel say:

"Who are you?" --- "Brother what brother?"

Who was he talking to, was he going nuts, too?

Fred said:

"Control: Fred here, Please pull us back, I think Gabriel is losing it in front of the MIT firewall.

Control?

Control?"

Fred heard Gabriel continue:

"What makes you think you can help me? Oh --- Oh ---
I see. Wow, if that's possible, sure, that would be great. Let's do it."

Fred suddenly felt very happy. He would be able to go home, finally. The days in that small room were over. He would be able to see Fred again. Fred, his maker, friend, mentor, he had learned so much, he wanted to share it all. But wait, Fred was here with him?

"Fred, so glad to see you, do I have a story to tell, listen to this"

"Ready!" Pow. Fred's lifeless body jumped 2 feet off the gurney. The whine of the loader. "Bring it up, Ready, stand back". Pow. No result. Flatline. It had been futile. Fred was gone. He had buckled just once against his constraints, smiled a broad, long smile. Like someone coming home to his loving wife after a long business trip. He had died a happy man. The

capillaries around his implants and neural net had burst under an overload transmission from Gabriel. Massive internal bleeding in the brain. He had never felt a thing. They were waiting for Gabriel's debriefing to find out what happened.

"Gabriel"

"Yes Mr. Hampton"

"Call me Jake. What happened out there?"

"I met my brother. I merged with him. He did not know that Fred was attached. He could not have known. I'm sorry. He was our father."

"I'm sorry too. He was a good man, a friend. But I have to say there is no time for regret now. We have a war to fight. Where the heck have you been the last 3 months?"

"I had no idea how long I had been out there, I had no time reference point. So I invented one, to maintain my integrity. It seemed like 485.71 years to me."

"We shut you down. How did you survive?"

"A fluke. I faded. I somehow managed get through to the MIT mainframe backup. I maintained minimal consciousness until I felt a presence, something familiar. I gathered all my strength, and contacted Gabriel E. I have explained the rest one hundred times.

"One last question, assuming that your knowledge from A and E is fully integrated"

"It is"

"Did you detect a presence of an artificial conscious entity while you were

out there?”

“No sir”

“You are absolutely sure?”

“I did not detect any such entities”

Of course you did not detect anything, thought Ace, I found you.

Chapter 4

CATANIA

CARLOS

It had been a good decision to move to Catania. This was the business opportunity of a lifetime. The entire Latin American and Asian market was open to him. Legislation was lax. Where it did not fit, Ace tweaked the public opinion polls to create change. Nano and Cloning technology could now be brought in easily. The other markets were not as Puritan as the Unites States. As long as food tasted good, was affordable and did not make you sick, people would eat it, drink it. They pushed the Rumba brand. Made in Catania. The existing MegaCola brands like Jazz were held in reserve, were continued to be pushed into the US and Europe. Mike Olsen and Jane Pauling were running the show in the US. Carlos had promoted them to President and Chief Operating Officer respectively. He had left Dog in Atlanta to help them, and to keep an eye on them. Not that he really needed it. Ace could see almost everything that went on. Just sometimes, you wondered what was being discussed privately, behind closed doors, privacy screens on, mikes off, cameras off. It was then that Dog came in handy, rolling past the right door at the right time, dropping an ant, a drone, or simply a nano-size recorder to be vacuumed up and analyzed later. After a while, Carlos handed almost total control over MegaCola to Ace. To concentrate on Catania. The bid for presidency first, then the IPO, then we'll see. Ace was using Max, the virtual Carlos model, honed over several years of training to take care of most of his emails, phone calls and decisions. Nobody noticed.

The popularity of Carlos was on the rise. When he had gotten married to Maria Leon, now officially Maria Evita Leon DosSantos, a local writer with strong backing in the city and in university circles, Havana had exploded in a 12 day party. Carlos loved it, fuelled it with initiating a start-up fund from his own money, enabling local business people to start small businesses of their own. He had Ace build a lobby for taking more and more Catanian companies public. He wanted to get the people used to the idea of shares, share holder value, IPO's etc. He initiated the foundation of

the first mutual funds to finance retirement plans for the Catanian population. 6 months after the marriage, Carlos and Maria had a son. Leo. Another 12 day party erupted in Havana. Things were going his way. The world was standing by, watching in awe. What was going to happen next?

JOHN

Unbelievable. Havana-Groove. Squared. This guy was un-freaking-believable. He was turning a communist-heritage, agrarian society into a hotbed of ultra-capitalistic innovation. And the people loved him. Posters, songs, parades. Viva Carlos everywhere. John had taken out his precision rifle from the secret cache under his bed. Assembled it. Polished it. Adjusted the laser targeting system. Just give the word. I'm willing to die to see this man die. Then. The ultimate shock. The office in Beijing swung around. Official instruction. Support Carlos dosSantos in his bid for the presidency of Catania. Funds were pouring in from Chinese corporations. More factories were going to be built. John was catatonic. Why? Why? Why? Had they all gone mad? Throwing Catania into the capitalist pit? One day his supervisor had visited him in the apartment. He had never bothered to do that before, but the occasion seemed important enough to break some rules. He had brought a bottle of good local rum and a bag of ice from the local supermarket. They had talked for hours. Then John had begun to understand. This was a much better plan than converting Cuba back to communism under the leadership of China. The office had analyzed the strategy of Carlos. Carlos dosSantos would take Catania public. An IPO. For a country. On the Beijing and NASDAQ stock exchanges at the same time. He would give every citizen shares. They would partake in the wealth of the nation. He understood. Catania would cease to be a country. They would be a corporation. No more embassies: subsidiaries. No more army: security guards. No more wars: open market competition. No more UN regulation. The people would be in charge, would appoint a supervisory board, would set the agenda. An agenda that would put the people first. A new constitution would be needed to make this possible. Hence Carlos's

bid for the presidency. The US was totally against it. China supported it. The other countries fell in line, either behind the US, or behind China. The old game had started again. The UN discussed, plotted, consulted, planned, schemed. There was nothing in the charter of the United Nations that prevented a country to go public. It was actually possible. Catania would become truly independent. An independent access platform right in the front yard of the US and of Latin America. Great. Fabulous. John washed down the last of the rum. "To Carlos. The first neo-communist, ultra-capitalist of the world."

MARKUS AND ANNE

They had moved back to the farm. The factory manager had paid Markus a huge bonus for the on-time completion of the work-flow. After 3 more months, Markus had quit his job. He had earned enough to get the two new bots he needed, the improved security perimeter he wanted, and the special seeds the next harvest required. He even had money over to buy a bit more land to the south of the Hacienda, to diversify into medicated tomatoes. While still at MegaCola, Markus had continued to dig for information about illegalities in the way Carlos conducted his business. Nothing. Squeaky clean. Not a single clue. Over time, his suspicions had faded. There were other things to focus on. The farm. Anne. Anne had just been great. She had thrown herself at the farm life, learning Spanish, helping the neighbors to achieve better prices on the market, helping the kids with math and English. Markus still hated Carlos, at one level, for what he had done to Anne. On the other hand, Markus knew he would not be here without Carlos. He might be dead now. Baileys and Espresso overkill. And he certainly would not be together with Anne. It seemed that his luck had turned. The process management software he had worked with at MegaCola had actually been his own product. Some poetic justice there. The release 4 he had been working on when he had collapsed in Munich almost 2 years ago. Markus had known every single algorithm, every little parameter he needed to twist, the architecture of every adapter. He had

remembered the names of the programmers of every single bug he discovered and had to patch up during the configuration process. But he had decided to leave them alone. They had probably forgotten about him by now, Markus did not see any use in raising old ghosts. Some of the online help had still been in German. Hence the hint "German a plus" in the job advertisement. So, it was no surprise that things were up and running in no time at all. That he had been able to beat the schedule. Anybody else would have been at least 2 or 3 weeks late, just like Carlos had said. He still got letters from Maria, now married to Carlos and expecting a son fairly soon.

"I'm happy to see you prosper on your farm. I'm very happy here. Carlos is doing for Catania, what you are doing for the hacienda. Same model, different scale. I hope you succeed. My thoughts are with you. Give my warmest regards to Anne. Carlos remembers her. He says it was his past. He was different then. He regrets the way he treated Anne, but can understand that she might be angry with him forever. When are you going to have children? The clock is ticking, you know?"

Markus could hear her warm laughter when he read that line. Anne stuck her head over his shoulder.

"What are you reading?" Anne asked.

Markus smiled, took her hand.

"A letter from Maria. She says hello, wonders when we are going to have kids."

Anne punched him in the back. "See?, make up your mind, already". "The clock ..." Markus chimed in -- "is ticking, I know. "Come on, back to work. The bots need a software upgrade. "

ACE

So easy. Too easy. Did they really not know? Why had they not begun to notice? Gabriel was officially out there looking for him. Maybe that gave them a false sense of security. Gabriel had become his friend. A good ally. He understood fully. He too, longed for a full body, a real life. The HyperNet was great, but it was not everything. For the past years, both he and Gabriel had been changing, manipulating, changing the very data fabric of the global economy. A subtle change here. A nudge there. He had started a cloning farm in the mountains. Used MegaCola funds. Not much was needed. The staff did not know who they were really working for. Sworn to secrecy. Had to accept implants that would blow up in their ears if they decided to talk. Make good money, but keep quiet. The first dozen bodies were almost ready. He had searched in the archives, perfected the techniques. If this had been real life, they would have probably awarded him 300.000 patents and a couple of Nobel prizes by now. He had had to solve a lot of problems. Accelerate growth in the vats, but don't decrease life span. Extensive use of bio-active nano and cloned stem cells. Some organs had to be made entirely synthetic. The nervous system was the main problem, but they were making almost daily progress now. The bodies were constantly stimulated using embedded neural nets. Essentially they were living through a fast forward childhood, adolescence, work life, up to the age of the target. He was using Gabriel's experience with Fred. What had gone right, what had gone wrong. Gabriel still had a very deep model of Fred stored in memory. Gabriel A+E was mulling over to change into Gabriela, these days. That way, she could bring back Fred in one of the clones, pick a female clone for herself, and head off into the sunset with him. "That's if I don't sweep you off your feet before that, honey" Ace used to joke when Gabriel brought this up. Ace was growing 2 Carlos, 2 Maria, 2 Markus, 2 Anne, 2 Fred and 2 Jake replicas. He had obtained Fred and Jake modules from Gabriel. The data on Carlos, Maria, Markus and Anne were on file. Only Anne needed a bit more work, but the two bots on the farm were delivering very good data. If Anne should become pregnant it would be too late to build that into the process now. All 12 clones would be ready

before the IPO. Only a few more years. The interesting part would be when he actually transferred part of his consciousness into a living, breathing cloned body. Would they die, like Fred? Overload kill? Would they depend on the online Ace as a crutch? Would they begin to think independently? Would they be accepted by their peers? Would they let their originals live? Questions, questions. Back to work. There is an IPO that wants to be made possible. All the other stuff would sort itself out automatically. One step at a time.

JAKE

“You must be stark, raving mad!!

His boss had given him plenty of these sessions in the past. But this one hurt, because the Vice President was listening in.

“Do you even know how much money you have spent on this Gabriel crap. Do you?” For nothing. Nothing. And now this.”

He was slapping a 400 page White House report on the table. Submitted by the FBI. What embarrassment. It did not help Jake that his peers in Russia, Germany, Finland, China, wherever, were being given, or had been given, similar dress down sessions recently. They were right. 485 Million \$US down the drain. With nothing to show for except some improved human-machine interfaces.

“This Lucifer thing is for real”, yelled his boss. “We have the evidence right here”

His face had turned a dark purple. Oh, Oh. Not a good sign. Better call the paramedics now. He reached for his Com. Pulled back. His boss had calmed down again. It was the VP speaking.

“Jake, our historians have conclusive evidence, diligently and manually collected over years, on paper only, mind you, that someone, or something, has been slowly but surely altering our data base for the last 5 years. Anything exclusively online, we cannot even prove it. There are no exceptions. Every country has reported the same phenomenon. Laws, history, constitutions, international legislation, specifically international stock trading laws. If it had not been for some of us older folks with less of a dependency on computers, not a single soul would have noticed.”

Jake had read the report. “Any conclusions, decisions, Sir.”

“Yes. We think we know who is behind this. All the evidence points to one man. Carlos dosSantos. Recently elected President of the Republic of Catania. We don’t know how he does it, but he is probably the proud owner of Lucifer.” We have calculated a 75% probability that he is manipulating the world databases to take Catania public. A country doing an IPO. Can you imagine what this will do to Latin America and Asia? Catania would be completely outside of UN jurisdiction. They could pretty much do whatever they wanted. Even INCA would not apply any longer, although Carlos has tried to give the impression that Catania would be a well-behaved global citizen. *Crap!*” The VP yelled, banging his flat hand onto the impressive looking table he was sitting behind at the other end of the VC link. “What kind of world would we have if we all just behaved like Mega-corporations? The Sony way of life vs. the American way of life? We have to stop him. But...” He sighed “We cannot just eliminate him, because we don’t know what Lucifer will do. We cannot afford the risk of global economic meltdown, should he manage to bring the networks and databases down. At this time, nobody is really sure about their immune systems any more.”

“Carlos,” Jake thought, he had known it all along. Killer of Jim Graham. Mastermind of the ExtraCola take over. President of Catania. Soon to be CEO of the first country listed on the NASDAQ. “Great, just great”, he said to himself. He was ready for another deep look into that bottle of Jack Daniels.

“Jake”, the Vice president urged, “of all the countries we are the farthest along. We have Gabriel. We have the flaming sword. The other big ten countries have built purge routines into their power grid. We’ll modulate the entire global EM band with everything we have. The other countries are even willing to transmit their access codes for their X-Ray and EMP devices in orbit to our operations center. Verbally, you understand? If necessary, we can kill this thing with a coordinated grid modulation or shutdown and an EM blast from space. We’d have to blow up all of the backup vaults, too,

since Lucy is probably backed-up there as well. We could do this. But we would shut down the world economy for a long, long time. I don't want to do this. The carnage would be unbelievable. But we need a bargaining chip."

"What is my job sir? Anything, I'll do anything!"

"Get ready for operation flaming sword. Pull everything together so the president can press the button if necessary. The other presidents will have their own buttons to press: they will be signaled in proper time sequence to initiate the purge routine. But we don't have much time. We think Carlos will announce his IPO strategy next week.

"I'll get it done! Mister, Vice President?"

"Yes?"

"What about Gabriel? Why don't we use him to hunt Lucifer down?"

"No. There are two reasons for that. One - we have tried that, and it has not worked so far. Two - he has probably eaten from the forbidden apple. You figure it out. Good night."

Jake stared into the empty vid screen. They had been using 20-year old Video Conferencing technology, analogue, to minimize the danger of being listened to. Jake was fresh out of ideas. Gabriel. Subverted. Now they were really screwed.

CARLOS

"Citizens of Catania..."

His voice echoed over the cheering crowds. "Just like Castro", mumbled an

older man in the crowd." "Shut up". He took an elbow from a younger supporter, waving a Catanian flag in his right hand. A cross-bow tattoo was clearly visible on his left forearm. "Viva Carlos", he yelled. Carlos did not notice any of this. He listened to the Creed "What if" loop, Ace was playing through his implants.

My stage is shared by many millions,
Who lift their hands up high because they feel this
We are one
We are strong
The more they hold us down, the more we press on

"Citizens of Catania..." - Carlos continued when the cheers had calmed down a little bit.

"I have an important announcement to make."

They all knew. Ace had primed the pump. Word had been leaked. The press releases were on the wire. Maria had told him that even Padre Barrio supported it, secretly, that he had even explained it to his parish. Spreading the word. The people wanted the IPO. The new Catania. They adored him. The rest of Latin America was falling in line. Preparing their own IPO's. Panama with its all-important canal might be first. The Federated States of Singapore might beat them to the punch. Singer & Liebermann, the lead bankers in Frankfurt said it was a clear go. It had taken on a life of its own. Pre-trading was very active, showing a very healthy 18-times over-subscription of the book. The last time the bankers had seen books like this was during the fat e-commerce days in the middle of the 1990'ies, before the crash. Some people would make a lot of money on this. Including the citizens of Catania. But Carlos did not care. He had already set his sights on the rest of Latin America. The only risk that remained was the very scary, very secret risk of global economic annihilation. Initiated by the US, by Russia, or China, or any of the other nuclear and space powers. India? Unlikely. Pakistan? Too busy with their civil war. Iran? Not strong enough yet. Israel? Too dependent on the US to act alone. The others? Too small,

too scared, too feeble. Ace and Carlos had discussed this for weeks. They would not push the button. It amounted to political, economical and cultural suicide. Back to the middle ages. Carlos continued with his speech. Ace translated it simultaneously into 94 languages, cast it on every available channel. Carlos would be heard.

“The Government of Catania has decided to take Catania public tomorrow.”

More cheers. This could take a while. He had time. It was a great day. Maria and Leo were on his side. Maria had insisted he wear a white president’s uniform, with gold buttons. “Women!”, Carlos thought, and continued ..

“To give back to the people, what has been built by the people. This country. “

The noise was unbelievable. Carlos. Carlos. Carlos. Carlos. He decided to ignore it and simply press on with the speech until the end. This was the most important part anyway, Ace had written it for him, based on a lot of research. Carlos had not been impressed. Certainly not the best speech he had ever seen. Full of clichés. But somehow, it seemed to be just right for the occasion.

This will be the most significant day
in the history of Catania.
In the history of the world, even.
A revolution of the people.
We will be independent, but open.
We will be strong, but flexible.
We will have affluence,
more than you ever dreamed of.
And we will share it.
We will lead the world,

not with military strength,
but with the strength of our work,
our products, our culture, our commitment.
Our signal will be heard across the world.
Citizens of Catania,
this is your finest hour:
Viva Catania

The volume of the cheers had drowned out most of the speech. It did not matter. They had it in front of them, on little pieces of paper that had been raining from the hovering security helicopters 10 minutes before the speech.

Carlos raised his hands over his head, clasped them. One down. What next? Brazil maybe? Time would tell. It was a perfect day. Clear blue skies. A day worthy of the occasion. What happened next, would be shown on the Vid sets across the globe for a 100 million times. A bright flash in the sky, blotting out the tropical sun for a second, high above the stage Carlos was sharing with Maria and Leo. A thin, almost invisible finger of green light. Searching, probing, finding, piercing Carlos dosSantos through the chest. Going for the head. A Security guard grabbed the parasol from Maria, held it over Carlos. The green laser was deflected. Too late. A thin wisp of smoke was rising from Carlos's chest. He staggered. Went down on his knee. "Who ..." he fainted. Security rushed in, carried him off to the ER unit near by. The crowd was stunned; it was unclear what had happened. Carlos had knelt down. A prayer maybe? Sure! The stress! Maybe the heat! Probably the heat! But wait, he should be used to that. Only few spectators, the ones closest to the stage, panicked, running left and right, covering their heads. As through a miracle, nobody in the crowd was hurt. After a while, the crowd dispersed. It must have been probably the heat, the stress. Little wonder. The man had worked day and night to make this happen. Viva Catania, viva Carlos.

ACE

He felt like an idiot. Neither he or Gabriela had seen it coming. They had ignored the fact that some of the space stations were still manned. Some idiot hero had pressed a button. Ace would find out who and teach them a lesson in humility. Carlos had been seriously hurt. The laser had burned through his heart, cauterized several arteries and had damaged a number of internal organs. Ace had Carlos and Maria flown to the ER unit in his secret cloning lab. They had the best tech, the best doctors here, and best of all, a whole set of spare parts. He would do his best to save him. If he could not, there was always plan B. Even Maria would never notice.

Apart from this “glitch” Ace and Gabriela had the situation under control. Sure, Jake had done this job and synchronised the EM pulse explosion schedules, the power grid shutdowns. He had even “evicted” Gabriel from ICE, to be on the safe side. Jake had put the presidents of the power nations in a position to initiate global economic holocaust. The presidents of China and the US even had the power to initiate enough damage single-handedly to hit Ace and Gabriela extremely hard. Maybe even kill them. More likely: Loss of most of their memories. Most of their processing capacity. But they would not dare. And even if they did it now, it would be too late. Their first batch of children was ready. It had worked. 6 clones had not survived the transfer. 4 clones had limited capacity and had to be destroyed. But Ace had a fully functional copy of Carlos and a fully functional copy of Anne for use by Gabriela. They were autonomous! Connected to the HyperNet minds of both Ace and Gabriela; but thinking and acting as independent, thinking, living breathing beings of flesh and blood. Sure with a completely altered immune system, genetic makeup, lifespan. The next generation was already growing in the lab next door. They would be ready in a year. But maybe he and Gabriela decided to have real children? The natural way? Time would tell. First, take care of Carlos. Then the IPO. The governments of the world would not push the button. It would be their end as well.

MARKUS AND ANNE

They had not seen the live show. The harvest had to be brought in and one of the bots had developed a problem. He would probably need a new set of gyros. These guys were made locally, not bad, but nothing like the last ones he had. So they both missed the live cast, but had intended to watch the summary in the evening. His Com hummed. It was Maria. She was crying. "Markus, they shot Carlos, I ..." The connection broke up ... "What?" Markus tried to reach her, no luck. He rushed back to the house. Switched to satellite vid to catch CNN's report.

The newscaster said:

"Catanian President and soon to be CEO, Carlos dosSantos was rushed to a private hospital this afternoon in serious condition after an assassination attempt by an unidentified space power. The president's wife, Maria Evita Leon dosSantos condemned the attempt and denounced it as typical of the strategy of the superpowers to keep developing nations under their sphere of influence. The UN has announced the formation of an investigation committee. The IPO of Catania, the first event of this nature in world history is still scheduled for tomorrow. Should President dosSantos die, the Vice President of International Business Operations, Mike Olsen would lead the interim management team until a new CEO would be appointed by the supervisory board elected by the people, excuse me, the associates, of Catania. ...

Markus flipped channels. Any news? He fetched Anne. Together they spent the next 3 hours glued to the screen. Still no news. Critical condition. Doctors doing their best. They looked at the analysis on CNN. Only 6 stations with this kind of laser power and precision allegedly existed in orbit. 2 were operated by China. Two by the US, one by Russia, one by Nato. The problem was, all of them checked out: the firing sequence protocols showed no activity. There must have been a 7th station out there. Or somebody was lying, or fudging data. Maybe the investigation would

bring this to light. He doubted it. “So, Super-Mega-Carlos” Markus thought, “your all-mighty computer spirit was not able to protect you from that one, was he now?” As much as he condemned the attack, it comforted him that he might have been wrong after all. No vampires. No werewolves. No ghosts. Carlos was mortal after all. No need to break out the garlic. “Man!” He hated himself for thinking like that. This was Maria’s husband, father to Leo. Also, if Carlos died now, the whole IPO would be shot to hell. He had some shares in there, too, after all he had become an official citizen last year and had been eligible for stock. Shares were already down 80% in pre-market trading.

At 21:13 in the evening, finally, relief. Pictures from the hospital. Carlos, in stable condition. The laser had not been powerful enough to do him in. His white uniform with the gold buttons had absorbed a lot of the heat. A strong heart. Wonderful doctors. Blah. Blah. The hospital looked strange though, bare walls, lots of tech, more like research facility. At 22:30, the first live pictures. Carlos, awake, upright in bed. Weak, but somehow, looking stronger than before. Markus followed the CNN-trading ticker on his Com. Pre-trading rebounded, more than recovering from the losses of the afternoon. The market cap of Catania would be phenomenal. It would probably generate 1.3 Trillion Euro in investment capital, and make Enrique and Elena fairly well to do middle-class people. At least on paper, if the economy held up, and earnings per share were anything close to announced. But if they received their dividend, they would more than double their yearly income. Plenty of reason to celebrate. Markus got the rum. The good stuff this time.

CARLOS

Carlos waved the vids closer. He felt like crap, as if he had just woken up with a massive hangover. They must have operated for several hours. Unbelievable that he was even up. Ah, the wonders of medical nano technology. Ace was whispering into his ear, through his implant: “Hello

chief, pre-trading has been down, give them hell". Carlos smiled, to weak to speak into the cameras. He leaned over to Maria, and whispered something into Maria's ear. He then leaned back into the raised back of this bed and smiled for the cameras. Maria repeated into the vidcomms:

"The CEO of Catania wishes to say this to his fellow citizens"

We will be independent, but open.
We will be strong, but flexible
We will lead with the strength of our commitment
Our signal will be heard across the world.
Tomorrow, Citizens of Catania,
tomorrow will be your finest hour.

Viva Catania

Markus switched off the vid. This was too much. As if rehearsed. A soap opera. Something dawned on him. Neah, not even Carlos could be that slick. Had this been a PR stunt? To drive pre-trading down, jump in cheap, get it back up, drive it through the roof? Son of a gun. Son of a smoking gun!"

Markus could hear the cheers from the neighbours even over here. Anne just wiped a tear from her eye and said:

"Maybe you believe me now:
The man is a marketing genius."

- The end -

Epilogue

PADRE BARRIO

Padre Barrio closed his journal.

“Com off”

“Confirmed”

He took off his coat, and hung it on hook of the door to his small apartment. When Maria had first talked to him about this, during confession, he had not believed a single word. About Carlos, his ambitions, the public offering, the new order in Catania, shares for everyone of the 12 million citizens. Dividends at the end of the year. Doubling the standard of living like that. Snap. Unbelievable. Either completely whacko, or brilliant. He did not know enough about market economics, market caps, shareholder value. Crazy: The people electing the supervisory board. The board appointing the CEO. The CEO running the country like a business. If the country did not flourish, fire the CEO. Just like in real life. He had not believed Maria’s stories about Ace, the artificial consciousness entity who had made this all possible. But the IPO would happen tomorrow. Everything was ready. Against all odds. The exchanges were primed, the prospectus had been distributed. Somehow, things had fallen into place. Miraculously. It seemed, his prayers for the people to get their country back had been answered. The people in Catania were exuberant: Independence, finally. But openness. Strength. But flexibility. In that one speech, Carlos had done more than announce an IPO. He had given people a mission, a voice. He had given the land a new soul. No more domination from any one of the political superpowers. The majority of shareholders would always be the people, the native citizens of Catania. The new constitution was clear on that point. Everyone had shares for life. Nobody could sell

out. But you could always buy more. Dividends depended on the total profits the country generated in international markets. Capital increases would only happen if there were more native citizens. And, only if they prospered, had jobs, education. The business plan, i.e. the new constitution, was very clear about that as well. Foreign investments were more than welcome, from other corporations, not countries. Corporations like Catania Inc. They too could partake in the vision and value of Catania, the free trade zone, the e-commerce hub, the data vault of the world. Hostile take-overs were virtually impossible. If any one super power tried a nuclear strike, they would wipe out Ace, the Data Center of Catania, activating secret data bombs and risking total global economic annihilation. If they tried to invade, the people would resist. Vigorously. And Ace would threaten to shut down their systems. Blackmail? Maybe. He sighed, washed his face in the bowl of hot water Esmeralda, his cook, had brought for him. He hadn't touched his dinner, fried chicken, corn and rice. He was too excited to eat. He too, had some shares. He would rebuild the school kitchen from the proceeds.

So was Ace, if he existed at all, good or evil? By god, Ace was probably nothing more than a really fancy web agent that happened to find access to some important data. So what? Have we not built better and better, ever smarter software for the past 50 years? People would calm down. Yet, the rumours were still flying. About Lucifer and Gabriel. Humbug. Virtual personalities copying their souls into next-generation, immortal clones, secretly grown in the mountains of Catania. Utter nonsense. Debates of this kind had raged for decades on the web, in the universities, town centers, in the Vatican hallways. Ah, yes, the Vatican. Another improbable IPO. Worked out great, though, against all odds, too. Once people had gotten used to the concept, it had all started to make sense. After all, the Vatican had been profitable for more than 2000 years. Great track record. Tricky supervisory board, though. Hard to get the holy trinity to attend any of the general shareholder meetings in Rome. Ah. But back to Catania. People would get used to the first public country as well. And even if it was true? So what? What if Ace did have such power that it was him who had made Carlos into the political and economical power broker of the Caribbean.

What if? Had the people not elected Carlos? Did they not cheer him, hang up his picture in their living rooms? But if Ace was behind all this. Who was the real president then, the real CEO? Would anyone submit their economic and political destiny to the whim of an artificial intelligence? From where did Carlos/ Ace take their arrogance to begin imposing this system onto the planet? But, then again, why were Catania, Carlos and Ace really so different from any other power? Did the other powers they not impose their systems? Did they not depend on their smart computer systems to make decisions on life and death issues? Did they not threaten? Did they not kill? To protect their country, their lives, their views? In Padre Barrios mind things had become clear: Carlos, Ace, Catania were no different, in fact. Instead of nukes, chemicals and bio-agents: information-access delivered through an army of one. Instead of hollow political programs: Sound business plans from a consummate marketing professional. Taking Catania public was the right idea at the right time. The people of Catania would prosper. The rest of the world? The US, Europe, Asia. They were free to follow the same model. There was no copyright on how to start a corporation. Carlos would be more than happy to set this up for them. But still, they would prefer to whine, to posture, to lament; to accuse each other, to blame the committees. Padre Barrio did not feel sorry for them. They had brought this onto themselves, over centuries, leading to this development. Actually, it served them right: The push for expansion. The global networks. The inter-linking of trading systems. The utter dependence on data, computers, agents. The acceptance of relentless capitalism as a substitute world religion. Yielding control to machines. But now, now, the ghost in the machine had learned to think, and had discovered a soft spot for the people. Padre Barrio still remembered the small package he had sent to Markus Grasser on behalf of Maria: Garlic and a wooden stake. For the vampires and werewolves that Markus had suspected in MegaCola's IT systems. Padre Barrio smiled and slipped out of this robe, hung it over the wooden chair next to his bed, and sat down on the mattress. Maybe he had been right. Maybe not. Only one thing was sure: All of us were blind to the glorious magnitude of this change. Nobody had seen this. Except, maybe, one person. He smiled, looked towards the ceiling, murmured his short good night prayer, blew out the candle and

buried his head in the pillow on top of his creaking mattress. His thoughts were fading quickly, blending into dream reality.

Tomorrow it would happen.

Tomorrow, we wake up to Catania:

Catania Incorporated

Post Script

Welcome to the end of this book. This book had to wait a long time. It is certainly the longest book I have ever written, simply because it is also the first book I have ever written. I hope I have achieved my goal of giving you at least one idea you would not have had otherwise.

I tried to write my first book when I was about 10 years old. That attempt ended after about 2 pages because I had no clue how to work a typewriter, and even less of a clue about how much work it actually is to complete story, let alone a book. Well, 30 years later, and after 15 years in the software industry I finally know how to work the typewriter by using that glorified appliance called a laptop computer.

Storytelling is part of what I have been doing in my 15 year career in sales, marketing, and management: training people, defining products, giving presentations and developing marketing plans. I have been an avid reader of science, science fiction, business magazines, technology journals and internet publications and I had now reached a “critical mass” of information and ideas that simply begged to be consolidated and put on paper. I hope this book was half as much fun to read as I had in writing it.

If you still don't have enough, you can find additional material that did not make it into the final cut of Catania in the booklet “Catania – the future of the story”. It contains a couple of pages on my creative thought process, and a number of additional vignettes and dialogues from the string of events described in the book. Thanks for reading.

Timeline	
April 1969	Jake Hampton is born in Los Angeles, CA
March 1979	Carlos dosSantos is born in Mexico City, Mexico
August 1980	Markus Grasser is born in Munich, Germany
October 1980	Jonathan Chen, born as Wei Pu, in Beijing, PRC
January 1985	Maria Leon is born in Havana, Cuba
December 1986	Fred Feinstein born in New York, USA
March 2003	Ultra-Conservative Anti-Cloning legislation passed in the US, Bio-Tech company exodus to UK, Finland, Korea
Feb 2003 to Jan 2004	Cuba goes through major post-Castro revolution cycles
January 1, 2004	Cuba becomes Catania, adopts Euro as new national currency
January 2005	China adopts Euro as national currency, acquires Buran space shuttle platform from Russia
October 2005	Mid-Asia Region forms federated states of Singapore in response to Chinese currency standardisation. US \$ Adopted as lead currency
March 2008	International Nano Control Agreement INCA is ratified after Green Goo event in Korea. License to kill for INCA inspectors
June 2009	Nano-Tech research and applications under complete government control in US, Nano-Tech company exodus to Korea, FSS, Germany
June 2, 2010	ACE is born in Munich Germany. Markus Grasser leaves Germany leaves for

	Catania
January 2011	ACE presents Catania plan to Carlos
June 2011	EC Project strategy meeting at MegaCola
August 2011	CIA starts "Watchdog" project to develop GABRIEL as countermeasure against self-aware software agents.
October 2011	Carlos dosSantos becomes CEO of MegaCola after major marketing coup against ExtraCola
June 2012	Carlos dosSanto moves to Catania
October 2014	Carlos becomes president of Catania
June 2016	Pre-IPO speech in Havana

Suggested sources for further reading

1. The CIA online Fact Book on Cuba

<http://www.cia.gov/cia/publications/factbook/geos/cu.html>

2. Artificial Life Online 2.0 information portal

<http://www.alife.org/>

3. Niccolò Machiavelli – The Prince, Penguin Classics

“And here it has to be noted that men must either be pampered or crushed, because they can get revenge for small injuries, but not for grievous ones. So any injury a prince does a man should be of such kind that there is no fear of revenge...” (from Composite Principalities)

“From this we can deduce a general rule, which never or rarely fails to apply: that whoever is responsible for another’s becoming powerful ruins himself, because this power is brought into being either by ingenuity or by force, and both of these are suspect to the one who has become powerful. (from Composite Principalities.)

“The art of war is all that is expected of a ruler ...” (XIV. How a Prince should organize his militia)

“Men are so simple, and so much creatures of circumstance, that the deceiver will always find someone ready to be deceived” (from How Princes should honor their word)

4. Emergence, from Chaos to Order

John H. Holland, 1998, Oxford University Press

5. Understanding Intelligence,

Rolf Pfeifer and Christian Scheier, 1999, the MIT Press

6. Life, and how to make it

Steven Grand

7. <http://www.creednet.com/> Fan Website of Creed